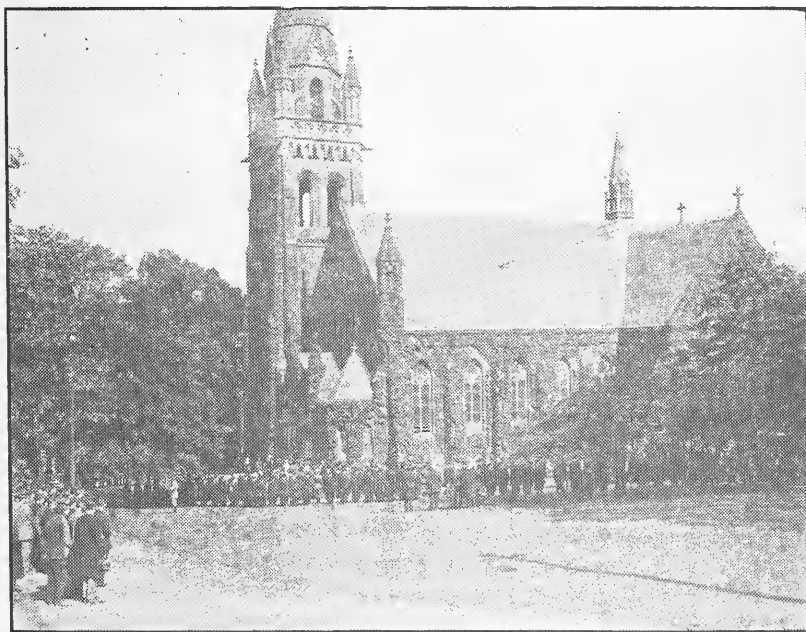


LEHIGH ALUMNI BULLETIN



The Academic Procession
President Richards' Inauguration

VOLUME 10

NOVEMBER, 1922

NUMBER 2

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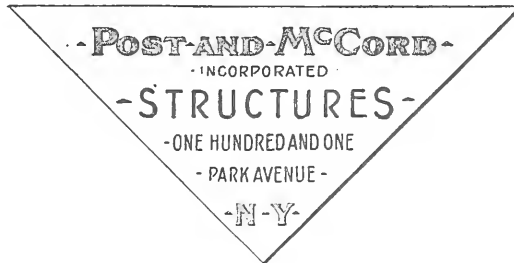
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ALUMNI BULLETIN

OF

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NUMBER 2

INAUGURATION OF DR. CHARLES RUSS RICHARDS AS THE SIXTH PRESIDENT OF LEHIGH UNIVERSITY

Ceremonies of Founder's Day, October 14, Featured by this Notable Event

Founder's Day at Lehigh University, commemorating annually the founding of the institution by Judge Asa Packer, held a special significance this year for the University and all connected with and interested in it, because the ceremonies were featured by the inauguration of Dr. Charles Russ Richards, former Dean of the College of Engineering of the University of Illinois, as sixth President of Lehigh University.

The formal exercises began at 11:15 a.m., when the Academic Procession, which included besides the Lehigh Faculty and Trustees and prominent Alumni members, presidents and leading educators from other institutions of learning, marched with dignity and impressiveness from the University Library on the beautiful varsity campus to the Packer Memorial Church within whose ivy-clad walls the formal ceremonies of the inaugural were held, with the Rt. Rev. Ethelbert Talbot, D.D., LL.D., of the Board of Trustees, presiding.

As the Academic Procession moved from the Library to the Chapel, a thousand under-graduates massed under the great oaks near the Chapel entrance, raised their voices in a magnificent rendition of the Alma Mater.

The great organ pealed forth the Marche Pontificale, Lemmens, under the skillful touch of T. Edgar Shields as the procession entered the edifice, which was crowded with delegates from other colleges, alumni and under-graduates, and friends of the University.

The hymn, "O God, Our Help in Ages Past," preceded the reading of Scripture and prayer by the Rev. D. Wilmot Gateson, A.B., Chaplain of the University.

The formalities of the inauguration opened with the Induction Address, which was delivered by Henry R. Price, C.E., '70, Lehigh, M.D., LL.D., '16, who has the distinction of being Lehigh's oldest living alumnus and is president of the Board of Trustees of the University.

Bishop Talbot presented Dr. Price in the following words:

"As you are all aware, it has been the time-honored custom at Lehigh ever since its great founder, Judge Asa Packer, passed away to commemorate him and others who have been chiefly instrumental in promoting the interests of the University, annually on a day known as Founder's Day. We are met today, therefore, as usual, to pay our tribute to his blessed memory, but there is a double purpose which animates us on this occasion and fills our hearts with hope and inspiration.

"We are here to inaugurate a new President to direct and guide the progress and development of this institution. We are congratulating ourselves that in God's Providence, after careful deliberation, we have been led to choose as the new head of Lehigh one in whom we feel confident we shall find a wise and consecrated leader.

"As one of the Trustees, I have been asked to preside at this interesting function. I have been requested to ask Dr. Henry R. Price, Chairman of the Board of Trustees and a member of the class which matriculated here in September, 1866, at the opening of Lehigh University, to induct into the Presidency of this institution Dr. Charles Russ Richards, whom we have chosen to succeed our beloved Dr. Henry S. Drinker, whose presence here today is a peculiar joy to us all. Dr. Price will now address you."

The Induction Address

"Founder's Day to a few still suggests a living personality and a remembrance of intimate relationship with him and the group of men associated with him in those early days, who gave direction to Lehigh's development. Gradually they have passed away, but we hold them in reverent memory. Others have taken over the task, and will continue to render loyal and efficient service. But who ever they are, none will exceed in faithfulness and loyalty, Our President Emeritus, Dr. Henry Sturgis Drinker, who has given the best years of his life in promoting the interests of Lehigh, his Alma Mater. We part most re-

gretfully with him, may he still have many happy years of useful life.

"To fill the vacancy caused by Dr. Drinker's retirement, another has been asked to direct our fortunes—a man who comes to us from the Middle West with a training and a vision not hampered by traditions of the past.

"Hopefully we entrust our fortunes to him, with the assurance of our willingness to help and, with the co-operation of a loyal alumni body, provide the means to meet the demand of an exacting educational world, and so carry Lehigh into the strong currents that will keep her ever in the front, serving human needs, by sending out men of character and ability, trained to meet the ever varying problems in the scientific and industrial world.

"Mr. President: We welcome you with open arms. May they close around you with enduring embrace, making for a fuller trust and increasing affection as the years go by. So with unity of effort in doing the things so necessary, we will each and all be prouder of Lehigh than ever before. I now as President of the Board of Trustees, in their name and with their unanimous consent, pass to you the keys which give you entry to our beloved University with every confidence that their turning will unlock our hearts and out of them will come a loving service that will encourage you in your efforts to increase our pride and do all things pertaining to Lehigh's betterment."

Dr. Richards' Response

"President Price: In accepting these emblems of the authority delegated to me by the Board of Trustees, I recognize the unusual opportunities for service as well as the large responsibilities which will devolve upon me as President of Lehigh University. In dedicating myself to the service of the University, I shall do everything in my power to advance its interests and to maintain its best traditions.

"The splendid achievements of my predecessors, Presidents Coppée, Lamberton, Leavitt, Drown and Drinker, are familiar to each of you. I pray that I may be worthy of a place with them in your esteem."

In behalf of the Faculty, John L. Stewart, A.B., Ph.B., spoke briefly and Henry S. Drinker, E.M., '71, LL.D., '22, President Emeritus of the University, extended to his successor as Lehigh's Executive, the greetings from the Alumni. Prof Stewart said:

"President Richards: I salute you in the name of the Faculty of Lehigh University.

"Our University has seen nearly sixty years of service. Her career is identical with that America with which we have all grown up. The America since the close of the Civil War—the America of the growth of the West and the vanishing frontier—

the America with the imperial railroad system—the America that saw Steel replace Cotton as King!

"In all that period Lehigh has played her part without faltering and without excuses, and her sons have carved their names on the great facade of modern America. Most of that time she has stood alone. She has had no support from that religious force so powerful in many of our colleges, and she has never enjoyed that social and political prestige of her older sisters.

"Today she takes on a new mood. She asks for neither praise nor blame, only to be understood. She knows what the new America expects, and as her Founder dreamed dreams her sons see visions. So it is that quantitative America is to be replaced by qualitative America. She looks to you coming from that West which beckoned so many of her sons. She asks you to help in building higher the walls of her Castles of Desire and Achievement. She looks to you to make the tradition of the University idea gather strength of life that it may keep to its great mission of free play of mind and disinterested search for Truth—the true content of that much-abused word Culture—and in days to come she hopes that you can say to the world of us what Nelson said of his captains—"We are a happy band of brothers!"

Greetings from the Alumni

Dr. Drinker spoke as follows:

"On behalf of the Alumni of Lehigh, and as one of them, I welcome you to our beloved University, and assure you of warm and hearty support from all Lehigh men in the task to which you have brought the training and experience acquired in your years of distinguished service in the mighty Central West.

"As a united body, deeply interested in the furtherance of the great work in education and culture to which this institution has, for over half a century, been devoted, we welcome you, and I, who have lived and worked for many years in the atmosphere to which you have come, can advisedly assure you that in coming here you will find yourself among those who are and will be, not only your supporters in the great work you have undertaken, but that you will find here, friends, devoted and sincere friends, whose joy and pride it will be to give you active assurance and evidence of cordial co-operation.

"In our Board of Trustees, you will have by you able and experienced men, devoted to the work to which they have unselfishly given their best energies.

"We are proud of our distinguished faculty, who in our three departments of Arts and Science, Business Administration and Engineering, have shown that Lehigh forwards in our State and Nation no narrow line of educational training, but rather broad programs of culture and science lead-

ing to the development of men fitted to take leadership in our nation.

"And in the old community across the river of the descendants of those Moravians who many years ago came from the old world and settled here to enjoy freedom, you will find kindly consideration and welcome. I know them because I am of them, for my ancestor on the Distaff side came over with their forebears. In their good college, you will find an institution, small in numbers, but great in achievement, a home of culture and of the classics, whose relation to our Lehigh has been and is that of close and warm friendship.

"On this side of the river are the great industrial works which have grown up during the life of our University and to whose development and operation Lehigh takes pride in having contributed many leaders.

"In our sister cities of Allentown and Easton, you will find, at Allentown, the noted college which leads in forwarding the tenets of the great Lutheran Church, and with whom our relations have ever been most cordial. And at Easton, you will meet our esteemed rivals in education and in athletics, the mighty men of Lafayette, whom we hold in friendly esteem and consideration.

"In your new home here, in our grove on the breast of old South Mountain, rest assured that you and the good lady who comes with you to share and promote your task, will find, I am certain, solace and satisfaction in the promotion of a great work in surroundings that will be pleasant and inspiring, and among associates who will be congenial, sympathetic, loyal and helpful.

"On this auspicious day which ushers you into charge of our beloved Alma Mater I follow and join my dear and old-time friend and fellow-alumnus of Lehigh, the President of our Board of Trustees, in extending to you glad welcome, and our prayer of Godspeed in your task."

Following the greetings, President Richards delivered an address which indicated his plans for Lehigh's future.

President Richards struck the keynote of his address when he told his audience that Lehigh, for sixty years a teaching college, was to embark in the great work of engineering research, and said: "While teaching is the obvious and apparently the chief function of a university, it should be its purpose to place scientific research in a position of equal importance with the work of instruction for the world must largely depend upon it to extend the boundaries of knowledge and to show its applications to the affairs of life."

The theme of President Richards' inaugural address was "Influences Affecting the Advancement of Education and Re-

search." The address is published in full elsewhere in this issue.

Lehigh took this occasion to honor some of her distinguished alumni with doctor degrees. The list of men so honored is as follows:

Doctor of Science

William Bowie, C.E., '95, M.A., Sc.D., Chief, Division of Geodesy, U. S. Coast and Geodetic Survey, Washington, D. C.; Major of Engineers during the World War; the foremost authority on Isostasy; representative of the Federal Government at important scientific conferences at home and abroad; distinguished scientist and engineer and contributor to knowledge. (Presented by Professor Fogg.)

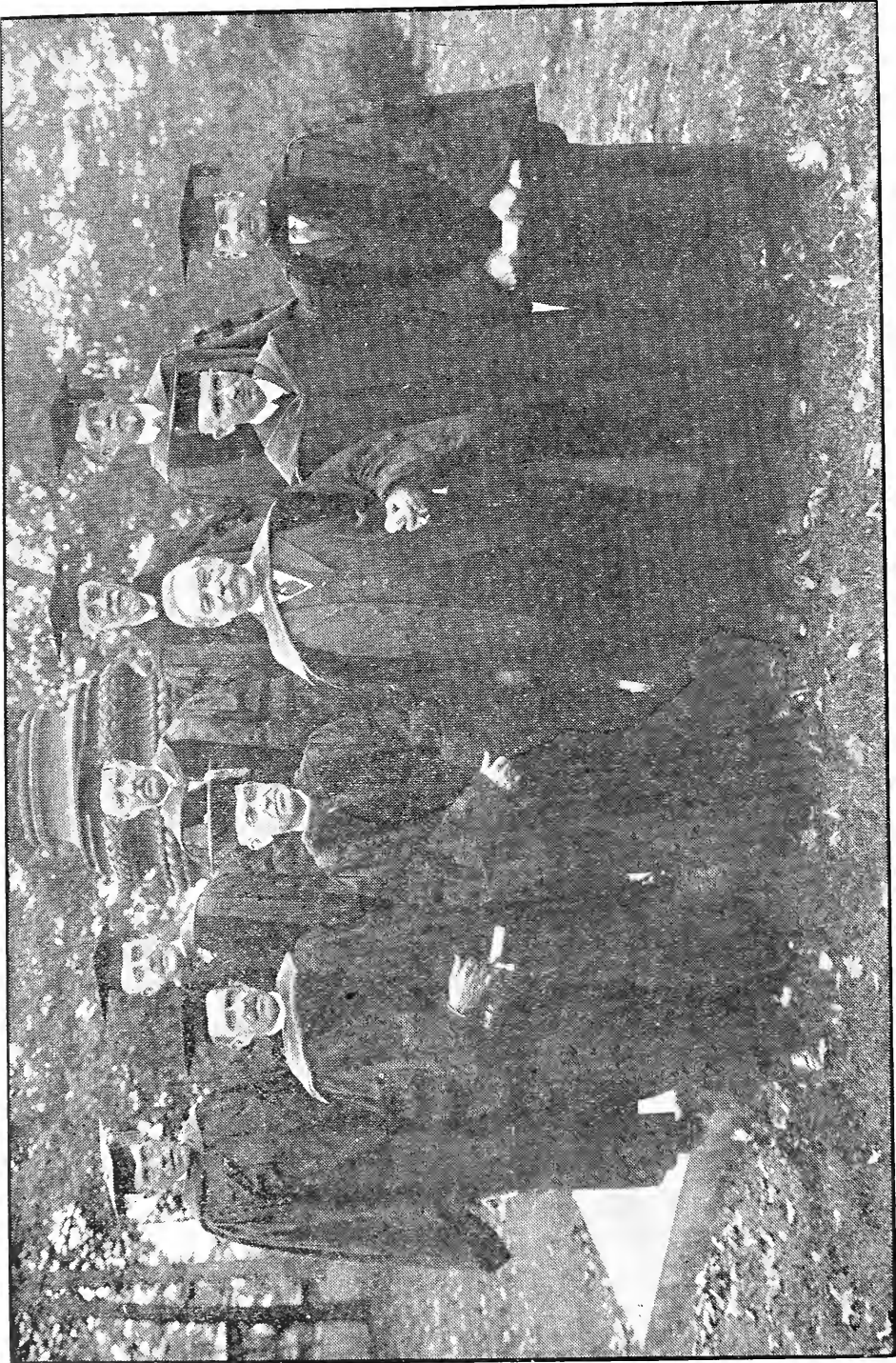
Morris Llewellyn Cooke, M.E., '95, former Commissioner of Public Works, Philadelphia; authority on scientific management and municipal administration; lecturer at various universities; officer of the Government during the Spanish-American War; member of the War Industries Board of the Council of National Defense and of other important wartime organizations; author of various treatises on the Science of Management and Government. (Presented by Professor Larkin.)

Walter Savage Landis, Met.E., '02, M.S., '06, former Associate Professor of Metallurgy at Lehigh University; Chief Technologist and Vice-President of the American Cyanamid Company; inventor of processes for the fixation of nitrogen and the production of Argon and various chemical and metallurgical products; distinguished scientist and engineer and contributor to knowledge. (Presented by Professor Roush.)

Harlan Sherman Miner, B.S., '88, Sc.D., former Honorary Alumnus Trustees and President of the Alumni Association; Chief Chemist of the Welsbach Company; the leading authority on the chemistry of rare earths; investigator and producer of radio-active elements; member of numerous scientific societies; distinguished scientist and contributor to knowledge. (Presented by Professor Ullmann.)

Harvey Harkness Stock, B.S., '87, E.M., '88, Sc.D., former member of the Faculty of Lehigh University; former Assistant Professor of Mining Engineering at the Pennsylvania State College; Professor of Mining Engineering at the University of Illinois; distinguished as a Mining Engineer and in technical journalism; contributor to knowledge of the mining and technology of coal. (Presented by Professor Eckfeldt.)

Richard Hawley Tucker, C.E., '79, former member of the Faculty of Lehigh University; distinguished astronomer; formerly member of the scientific staffs of various astronomical observatories; now



R. H. Tucker, '79 Wap. Bowle, '95 H. H. Stock, '87 Dr. H. R. Price, '70 H. H. Miner, '88
 M. L. Cooke, '95 Dr. C. R. Richards G. W. Macfarlane, '76 W. S. Landis, '02 H. G. Reist, '86
DR. PRICE AND DR. RICHARDS WITH THE RECIPIENTS OF THE HONORARY DEGREES
 (M. V. Dornenech, '88, received his degree in absentia)

Astronomer at the Lick Observatory; member of numerous scientific societies; author of various treatises and scientific monographs; contributor to knowledge. (Presented by Professor Thornberg.)

Doctor of Laws

Manuel Victor Domenech, C.E., '88, former Commissioner of the Interior, San Juan, Porto Rico; successful civil engineer; distinguished statesman and man of affairs; contributor to the advancement and the welfare of Porto Rico, and of friendly relations between Latin-America and the United States. (Presented by Professor Lambert.)

Charles William Macfarlane, C.E., '76, Ph.D.; Doctor of Philosophy, University of Freiburg; successful engineer; distinguished economist; member of various economic and scientific societies; author of numerous treatises and monographs on economic, philosophical and historical subjects; contributor to knowledge. (Presented by Professor Stewart.)

Doctor of Engineering

Henry Gerber Reist, M.E., '86; distinguished Mechanical and Electrical Engineer; former Engineer of the Harrisburg Car Company; former member of the staff of the Thompson-Houston Electric Company; in charge of the Alternating Current Machinery Department of the General Electric Company; designer of much of the most important electrical machinery in this country and abroad; member of various engineering societies and contributor to the science and literature of engineering. (Presented by Professor Esty.)

Degrees in courses were awarded as follows:

MASTER OF ARTS: Jacob Arthur Glasier, B.D. (General Theological Seminary), Bethlehem. Mary Lucetta Hess, A.B. (Allentown College for Women), Hellertown. Homer Miller Jacobs, Ph.D. (Lafayette College), Norristown. John Clifford Roberts, A.B. (Colgate University), Chicago Heights, Ill.

MASTER OF SCIENCE: Solon John Fegely, A.B. (Lafayette College), Allentown. Martin Daniel Fetherolf, A.B. (Muhlenberg College), Allentown. Ira Myers Frankenhof, B.S. (Muhlenberg College), Bethlehem. Matthew John Adam Smith, B.S. (Franklin and Marshall College), Coopersburg. Edward Wetherhold Zimmerman, B.S. (Muhlenberg College), Allentown.

After the benediction the Academic Procession marched out of the Church and, followed by the audience, proceeded to the flag-pole, where, led by the University Band, the "Alma Mater" was sung.

THE LEHIGH HOME CLUB DINNER

The dinner to President and Mrs. Richards, given in the ball room of the Hotel Bethlehem by the Lehigh Home Club on Saturday evening, October 14, made a fitting climax to a memorable Founder's Day.

Dr. William L. Estes, Jr., '05, the President of the Club, presided and made a delightful toastmaster. Caleb Kenney, '10, took charge of the singing, and M. L. Jacobs, '10, the Secretary of the Club, took charge of the entertainment as well as of all the other details of the dinner. He was ably assisted by Charles I. Latting, '03; George Beck, '03, and George P. Flick, '14.

The Lehigh orchestra furnished the music, and their selections were interspersed with the singing of two New York artists, Miss Jeanes and Mr. Spencer. Joe Recapito, '24, the leader of the University band, rendered several beautiful cornet solos. He was accompanied by Tilghman A. Lambert, '23, son of William A. Lambert, '95.

The ball room was beautifully decorated and on a raised dias along the one side of the room was the table for the speakers and the invited guests. At a score of other tables sat two hundred members of the faculty and alumni of Lehigh, with their wives and daughters. The presence of the ladies added to the pleasure of the occasion and certainly gave a spice of novelty, as this was the first time that a Lehigh Club has included ladies among their guests at a club dinner.

The first speaker of the evening was E. G. Grace, '99, President of the Bethlehem Steel Company. He spoke for the Club in welcoming Dr. and Mrs. Richards, and in his talk told something of Dr. Richards' plans. He said that by next spring the specifications for the Lehigh of the future would be ready and that the faculty and alumni must be ready also to aid in fulfilling these specifications. "We alumni are now in control at Lehigh. We have wanted that control, but we must not forget it entails great responsibility. We have now the opportunity to do great things for our Alma Mater." He touched on the need of closer touch between the city and the college and closer cooperation. Then turning to Dr. Richards he said, "We like your Dr. Richards. You are one of us now and we have taken you into our hearts. We intend to leave no stone unturned to make your administration a success."

President David Kinley, of the University of Illinois, was then introduced and

made a most delightful speech. Throughout it ran a rich vein of humor. The frequent interruptions of applause and laughter proved his telling points were all finding their mark. Suddenly becoming serious he said, "Lehigh is known everywhere for the great work she has done and the quality of her output. It is a great honor to be chosen as her president. Also Lehigh is most fortunate in the man she has chosen. He is a man who will go with you and trust you and will expect you to cooperate with and trust him. You will have to get up early in the morning to keep ahead of his plans for Lehigh's development. You must look forward to a great expansion in material equipment and endowment in order to keep pace with modern educational requirements. At Illinois the income is the equivalent of 5% on an endowment of eighty millions of dollars. So you see what the States are doing for their universities. Having elected a president, don't settle back and expect him to secure the funds as well as plan and direct the work of the university. If you are to measure up you must plan great things. Lehigh has had a glorious past. She will have a glorious future if you plan for it and work for it. I wish you God speed, and God bless Lehigh."

Dr. Henry S. Drinker, '71, was called on next, and he told of how, when he came to Bethlehem several days before, he unexpectedly met President Richards at the station. Dr. Richards seized his bags and in spite of Dr. Drinker's protests carried them to his automobile and insisted on driving him to the hotel. "I tell you that shows what a human man we have as President of Lehigh. We have a man who will get near to the hearts of our boys and our alumni. We must follow and support him in all his plans. I feel I can safely pledge him that support from us all."

President-Judge Stewart, of Northampton County, was the final speaker. He said he was proud of the fact that he is the presiding judge in one of the few counties in the United States that can boast of two great institutions of learning like Lehigh and Lafayette. He complained that the students gave him lots of trouble when they got into court because they refused to take matters seriously. He told of a hearing in his court where several Easton landlords were the defendants, in a case brought by Lafayette College on the charge of selling liquor to the students. The boys created such an uproar in the Court by their

frivolous replies to questions asked by the lawyers that the Judge ordered the court cleared. "What was my horror a few moments later to see a husky deputy sheriff grasping firmly by the neck and ejecting from the court room my dear friend President MacCracken." The judge wound up his highly humorous speech, in which he made many a sly dig at preceding speakers, by a eulogy of Lehigh's past presidents and their accomplishments. He said to Dr. Richards, "I have no fear for your success. Study the work of your predecessors and carry that work forward to ever-rising heights."

President Richards then rose at the invitation of the toastmaster to say a few words in response. He started by referring to our little set-to with Rutgers on the football field. "This afternoon I noticed a number of incomplete passes. This morning we also had one which was incomplete. Will Dr. Domenech please come forward." Domenech, '88, who had arrived too late to receive his diploma and Doctor's hood when the honorary degrees were conferred at the inauguration exercises, was then presented with the diploma conferring the degree of Doctor of Laws and invested with the hood typical of the degree. Dr. Richards then continued. "I feel that Mr. Grace and Dr. Kinley have already given you most of my message. My immediate problem is to get to know my people at the college and throughout the alumni body. I must dream dreams with them and attempt to visualize the future. I hope within the year to have a definite plan in your hands with a program that I hope will justify your support. If I were a cheer leader I would now be tempted to say: 'Three Rahs for LEHIGH. Let's go.'"

After the applause subsided the diners stood while singing the Alma Mater, and wound up the evening with a rousing Lehigh Cheer.

THE PRESIDENT'S RECEPTION

After the football game a reception to President and Mrs. Richards was tendered them in Drown Hall which was largely attended. One of the interesting incidents was a great gathering of students outside, who by insistent cheering called President Richards from the reception. They would not let him off without a speech. According to Dr. Richards this was the most enjoyable incident of the whole day.

Influences Affecting the Advancement of Education and Research

INAUGURAL ADDRESS BY PRESIDENT CHARLES RUSS RICHARDS

Historians have rarely taken account of the effects of invention and the development of science and of general knowledge on man's economic, social and political status. In many instances it could probably be shown that inventions and scientific discoveries have led to the obvious and commonly recorded changes in the civilization of a particular people. An important invention or discovery may afford a tremendous advantage to one man in his competition with another, or to one nation in its relations with other nations. However, man's interest in the impulses and actions of men and in the mysteries of life is greater than his interest in things, and consequently, the records of all of the influences which have directly or indirectly affected human relations and progress are obscure. The influence of invention and science on the rise of man and upon the progress of nations offers a great opportunity for historical research. A history of civilization could well be written, the basis for which might be a selection of those inventions most far-reaching in their effects on the development of modern society and their relations to the progress of education, with the resulting obligations of institutions of learning not only to carry on instruction but also research for the further advancement of science.

From the records afforded by modern archaeological and historical research, we know that great civilizations have been developed in the past, and that they flourished for periods as long as those with which we are most familiar, only to disappear with scarcely a tangible record of the causes of their decay. Whether our own civilization will follow a similar course, no man can prophesy. It would seem, however, that the universality of knowledge and the developments of science will prevent the recurrence of the great catastrophies of the past.

Under the most favorable conditions, knowledge progresses by means of slow accretion. The dissemination of knowledge is, therefore, an essential element in its further development. The conveyance of thought by speech was inadequate in the spread of knowledge, and its development was, therefore retarded until the invention of more enduring and ac-

curate methods for recording thought. The employment of picture writing and hieroglyphics were steps toward man's first great invention, the alphabet and writing. Thereafter, the spread of knowledge was rapidly accelerated, for the thoughts and experiences of one man could be permanently recorded for the use and benefit of those who followed him. It was not, however, until the production of man's second great invention, the printing press and the use of movable type, that knowledge was democratized and given the impetus which was necessary in the advancement of civilization to its present state.

Quoting from Wells' "Outline of History": "With the invention of writing, which developed out of pictorial record, human tradition was able to become fuller and much more exact. Verbal tradition, which had hitherto changed from age to age, began to be fixed. Men separated by hundreds of miles could now communicate their thoughts. An increasing number of human beings began to share a common written knowledge and a common sense of a past and a future. Human thinking became a larger operation in which hundreds of minds in different places and in different ages could react upon one another; it became a process constantly more continuous and sustained.

"For hundreds of generations the full power of writing was not revealed to the world, because for a long time the idea of multiplying writings by making prints of a first copy did not become effective. The only way of multiplying writings was by copying one copy at a time, and this made books costly and rare. Moreover, the tendency to keep things secret, to make a cult and mystery of them, and so to gain an advantage over the generality of men, has always been very strong in men's minds. It is only nowadays that the great masses of mankind are learning to read, and reaching out towards the treasures of knowledge and thought already stored in books."

Working at the Royal Museum or University of Alexandria, Hero discovered the power of steam and invented a form of steam engine or turbine 100 to 150

B.C. Nearly two thousand years passed, however, before the Scotch instrument maker, James Watt, working in the laboratories of the University of Glasgow, perfected the steam engine and developed the third greatest invention, if measured by its influence upon human progress. Without doubt, the development of the steam engine more than any other single achievement has been responsible for the marvelous changes in the industrial, scientific, economic and political life of the world during the past century. Before the steam engine was perfected, most of the work of the world was performed by muscular energy, and the conditions of human labor were intolerable. Labor has been emancipated, and man has attained the measure of leisure which is essential to the development of higher ideals of life. The spread of education and the cultivation of science and the arts were the inevitable results of the multiplication of man's power through the use of steam.

Before the steam engine was perfected, no factory system had been developed for the manufacture of those commodities required for man's comfort and pleasure. With a source of mechanical power available in any quantity, it was inevitable that the inventive genius of man should be stimulated and the mechanical processes would rapidly supplement or replace human labor. Thus, during the last century industry has progressed with ever-increasing momentum, changing the whole economic and social life of the people and producing new demands for scientific knowledge and research, so that there has been a greater expansion of knowledge during this brief period than in all the previous history of civilization. While the influence of writing and reading and printing paved the way for the changes which have resulted from the utilization of steam power, the effects of the latter have been more immediate and startling.

The invention of the machinery of modern transportation by land and water, the fourth in this list, has had a potent influence upon the extension of civilization and the economic status of man. Before the invention of the locomotive, the railway and the steamship, the world was large; now in comparison it is very small. The products of one community may be quickly transported to another, thus increasing men's desires and opportunities and producing an interdependence of interests between individuals and nations. Through these inventions man has truly

"inherited the earth and the fulness thereof."

The fifth and last in this list of epoch-making inventions, each of which has produced so profound an effect on the progress of civilization, is the invention of electrical communication of intelligence,—the telegraph, the telephone, the wireless telegraph and the wireless telephone. By these electrical devices the thoughts of men can almost instantly be communicated to the most distant parts of the world. They have destroyed space and time and have made near neighbors of all men. It has been estimated that wireless communication between the two most remote points on the earth can be established in one-tenth to one-fifteenth of a second. The first message to be transmitted by telegraph, "What hath God wrought," is truly applicable to these marvels of modern science.

The list of revolutionary inventions and scientific discoveries which have been really beneficial to the development of a higher civilization could be indefinitely extended. From the earliest times the fate of nations has been determined by man's inventions. With the rapid advancement of scientific knowledge and its applications to the affairs of life, it would seem that the scientist and the engineer have it in their power to save the world or destroy it.

From the beginning, man has been a teacher. His experiences and knowledge were given to others by direct example or word of mouth before the invention of writing, and by personal instruction and the writing of books since that time. The sages devoted themselves to the preservation and dissemination of historical traditions and human experiences. Art and philosophy were developed by many people to an extent which excites the admiration and emulation of the modern world. A definite system of education, however, is the product of comparatively recent times. The philosophers had their pupils, the priesthood trained their neophytes in the mysteries of their religious cults, and there was doubtless a kind of education of the ruling classes. Occasionally some great genius appeared to propound new truths and to excite in the minds of men a desire for learning, but conditions were not favorable to the spread of knowledge beyond a limited group, and the education of the masses was discouraged rather than promoted.

The first educational institution in the world was the Museum or University of Alexandria, founded by Ptolemy I some

300 years before Christ. For a time this institution became the center of the intellectual life of the world. Its collections of books and manuscripts stimulated research and the advancement of science. Here during a brief period, Euclid developed the science of mathematics. Archimedes perfected many great inventions, extended the knowledge of mathematical science and founded the science of engineering. Hero discovered the first principles of thermodynamics and Eratosthenes laid the foundations for the science of astronomy. This period of scientific activity was short-lived, however, and the University became decadent through its fostering of the philosophies and cults of those who thus sought to solve the mysteries of life.

With the dying out of the torch of knowledge which for a time burned so brightly at Alexandria, the old apathy towards learning and science returned, and it was not until after the invention of the printing press that it again flared up and reached full brightness with the advent of the steam engine. The rise of the Roman Empire was characterized by an almost complete indifference towards the advancement of scientific knowledge. As one writer has characterized it, "Roman science was still-born into a suffocating atmosphere of vile wealth and military oppression. The true figure to represent the classical Roman attitude to science is not Lucretius, but the Roman soldier who hacked Archimedes to death at the storming of Syracuse." The same author further declares that the decline of the Roman Empire came about because "of the absence of any free mental activity and any organization for the increase, development and application of knowledge," despite the fact that "beautiful records of the beginnings of science were among the neglected treasures of rich men's libraries throughout the imperial domains," existing as "seed lying on stony ground."

During the long period from the beginning of scientific thought at Alexandria to the beginning of the modern scientific era, men observed the phenomena of nature, but they did not interpret them. Interest in the political upheavals which convulsed the world, and in the development of religious thought, absorbed the minds of the educated classes; while the common people were still chiefly concerned with the problems of an existence in which they were subjected to the whims of their political rulers. It is true that during this period educational processes were developed and extended;

great literatures were created; the world was explored; art flourished; and a few men such as Galileo, Leonardo de Vinci, Newton and other early explorers in the field of science, laid the foundations for future work. The emancipation of the minds and bodies of men was begun, with the inevitable result that a thirst for knowledge, a desire to know the truth, and a longing for an explanation of Nature's laws were developed. Yet at the time James Watt made discoveries which led to the perfection of the steam engine, he was constantly handicapped in his work through the lack of any kind of scientific information to guide him in his experiments. Nothing was known of the properties of steam; in fact, it was but a short time before that the constitution of water itself had been determined. Because of the lack of scientific knowledge, many of man's most marvelous achievements have been the result of pure invention or accidental discovery. Each of these inventions and discoveries, however, has awakened and quickened our interest in pure science; and in consequence, there has been an ever-increasing accumulation of scientific information available for the use of those who are exploring and extending the boundaries of knowledge.

At first, men were content to discover the truth and they were little concerned with its applications. In this utilitarian age, however, we are no longer satisfied to accumulate knowledge for its own sake, but we are increasingly concerned with its adaption to the use and benefit of mankind. Service to man, therefore, is the slogan of the scientist today. As Professor Thomson aptly says, "For life is not for science, but science for life. And even more than science, to our way of thinking, is the individual development of the scientific way of looking at things. Science is our legacy; we must use it if it is to be our very own."

The discovery of America furnished a haven for those who were seeking political and religious freedom, and for adventurers inspired by the possibilities of personal gain and the lure of the unknown. It developed a freedom of action and thought which was largely untrammelled by the conventions of the old world. The necessities of a pioneer race stimulated human initiative and ingenuity and the desire for knowledge. Education was encouraged; in fact, it was early recognized that general education was essential to government by the people. It has become a fetish to Americans and we are all tremendously concerned with its suc-

cessful administration and advancement. The opportunities of education in general, and of higher education in particular, are no longer reserved for special classes. They are available to any one who desires them. A certain amount of education is now required of every one; colleges and universities are subsidized by governmental and private agencies; and individuals attending them are partially subsidized. It is not inconceivable that the need for trained leaders in every branch of human activity may eventually lead the state to meet all of the expenses of individuals who are pursuing advanced courses which may be of peculiar value to the state.

Following the lead of the older universities of Europe, the colleges and universities of America at first limited their activities to the study of those subjects which had long been recognized as essential to the training of men of culture, and to other subjects regarded as necessary to the preparation of men for the learned professions of theology, law and medicine. Science received but scant attention in the early curriculums, for its future importance was still but dimly recognized. A new note in American education was struck with the organization of the Rensselaer Polytechnic Institute in 1824, to furnish instruction "in the application of science to the common purposes of life," in order to train men to teach "the sons and daughters of farmers and mechanics * * * and who will be highly useful to the community in the diffusion of a very useful kind of knowledge, with its applications to the business of living." Thus, the need for scientific and technical education was first recognized as essential to the "business of living" as it was characterized in the first announcement of the Institute. Further recognition of the growing importance of science and technology was given through the establishment in 1847 of the Lawrence Scientific School at Harvard, the Sheffield Scientific School at Yale, and of a course in civil engineering at the University of Michigan. It has been stated that these organizations "had a hard struggle for existence, because their aims seemed dangerous to academic traditions." The development of the Massachusetts Institute of Technology in 1865 and of Lehigh University in 1866 definitely established the importance of scientific and technical education. As was well stated by the first President of the Institute: "Material prosperity and intellectual advancement are felt to be inseparably associated." demanding "that

systematic training in the applied sciences which can alone give to the individual classes a full mastery over the materials and processes with which they are concerned. Such a training, forming what might be called the intellectual element in production, has, we believe, become indispensable to fit us for active competition with other nations in the race of industrial activity in which we are so deeply interested." President Rogers further stated that "such training should help to extend more widely the elevating influences of a generous scientific culture."

The work of these pioneer institutions was of tremendous importance in developing in the minds of the people an appreciation of the practical value of science in its relation to industry. A full measure of popular support was not accorded scientific and industrial education and research, however, until the organization of the Land-Grant Colleges, which began in 1867 under the provision of the Morrill Land-Grant College Act of 1862. By this act the federal government gave to each state a public land scrip amounting to 30,000 acres for each senator and representative in Congress, providing "for the endowment, support and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanical arts * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

These colleges have now been organized in each of the states of the Union, either as independent colleges of agriculture and mechanical arts, or as state universities. Originally endowed by the federal government, they are now supported chiefly by funds provided by the state. These and other state institutions of higher education organized independently of the Land-Grant College Act have popularized higher education to an extent which a few years ago would have been thought impossible. They are truly "of the people, by the people and for the people." These institutions have rendered a vast service through the dissemination of knowledge and the development of scientific research. They have contributed largely to the increase of wealth through the applications of the results of research to the agricultural and manufacturing industries, and to the conservation of the natural resources of the state. These institutions have contributed so largely to the wellbeing of all of the

people that they are regarded with the greatest pride and enthusiasm. Funds for their maintenance and support are given in an ever-increasing amount and their usefulness will be limited only by the limits set by legislative appropriations.

By an act of Congress approved March 2, 1887, provision was made for the establishment and maintenance at the Land-Grant Colleges of agricultural experiment stations "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigations and experiments respecting the principles and applications of agricultural science." By this act, definite recognition of the importance and value of scientific research was given, and its stimulating effects have been felt in every branch of science. The economic value to the country of the work of these stations is incalculable. Through the scientific study of soils and climate, of the breeding of plants and live-stock, of fertilizers and crop production, and the economics of farm life, the wealth of the country has been vastly increased. Soil has been conserved; and the food supply assured. No less important has been the improvement in the status of the farmer and of life on the farm.

The remarkable success of these agricultural experiment stations has led to repeated attempts to secure federal support for establishing and maintaining similar stations for scientific research of importance to engineers, and to the mining, manufacturing and transportation industries. For reasons which need not be discussed, each of these attempts has failed. The importance of engineering research in educational institutions was first formally recognized by the University of Illinois, through the organization of its Engineering Experiment Station, by an act of the Board of Trustees on December 8, 1903. This pioneer station has fully justified the faith of its founders in the need and value of technological research. It has contributed largely to our understanding of engineering processes and materials and it has stimulated a desire for the substitution of precise, scientific methods for empirical "rule of thumb" practices in the engineering industries. It has been of assistance in the development of the literature of engineering and technology, and in the training of men for scientific service in the industries; and it has been a model for a great number of similar stations which have been

recently organized elsewhere. Like that of the agricultural experiment stations, much of the work of the engineering experimental stations has had a very direct monetary value resulting from the conservation of the natural resources, economies in design and construction of engineering structures and products, and the discovery of new processes of great commercial importance.

Institutions of higher education are the store-houses of accumulated knowledge, and it is not at all remarkable, therefore, that many of the great contributions to pure and applied science have been made by their professors and students. While teaching is the obvious and apparent chief function of a university, it should be its purpose to place scientific research in a position of equal importance with the work of instruction, for the world must largely depend upon it to extend the boundaries of knowledge and to show its applications to the affairs of life.

Since the development of technological science and of technical education has followed rather than preceded the development of the basic industries, it was necessary to build up these industries by empirical methods and procedures, based upon practical experience, which were changed or modified when the results sought were not secured. Naturally, such methods were expensive and wasteful. Few persons cared whether a new process or method of production was the most efficient that could be obtained, provided that it was more efficient than methods which had previously been employed.

Wasteful methods have characterized the development of American industries. Our vast natural resources have seemed inexhaustible and there has been small regard in the past for their economical utilization. Only during recent years have we come to understand that there is a limit to our resources in coal, oil, minerals and soil beyond which we cannot go, and that they must be conserved by every method which modern science can devise.

Until recently, comparatively few of the engineering industries have appreciated the value of scientific research. Now most of them recognize its importance and many of them are concerned with its promotion. A few of the large industrial organizations have developed splendidly equipped laboratories devoted to the solution of problems of fundamental importance to their own interests and not infrequently to the advancement of pure

science. During recent years a considerable number of trade associations have been organized to study and promote the interests of the firms having membership in these associations, and in many of them, important investigations have been undertaken in laboratories which they have developed, or in cooperation with private or university laboratories. As a result of the War and the need to solve a great variety of new industrial problems quickly, the interest in research has been increased enormously and without doubt the importance of utilizing scientific methods will lead to the elimination of much of the waste which has been characteristic of the earlier industrial development.

Undoubtedly, the solution of many of the problems of the industries can best and most economically be undertaken through cooperation with the universities and technical schools, insofar at least as these problems involve the discovery of scientific information of basic importance. Educational institutions are interested in the establishment of facts, and work conducted by them is therefore less likely to be affected by prejudices. Furthermore, many of these institutions have facilities both in apparatus and men which cannot readily be duplicated by any private laboratory. Thus, those engaged in engineering research in a modern university have advantages which accrue to them through association with professors of physics, chemistry, bacteriology and other branches of pure science which may have a direct bearing upon engineering investigations in progress. Cooperation between university departments, therefore, aside from the advantages of library and other facilities, accentuates the importance of the university as a center for research in applied science, to a greater extent than has normally been recognized. Unfortunately, many leaders of industry have under-estimated the work of men engaged in academic pursuits. This scorn for academic processes is rapidly changing, and in an ever-increasing degree, the industries of the country will look to the university and technical school for assistance and will cooperate with them to their own advantage as well as to the advantage and the advancement of education and progress.

In the important work of educating men for industrial leadership, Lehigh University was a pioneer, and for nearly sixty years the University has established fine traditions and has maintained the

highest ideals. The institution has done much towards the development of the profession of engineering and the elevation and standardization of scientific and engineering education in America; and her contributions to literature and science have been noteworthy. With a large vision of the future demands upon the engineer, she has endeavored to train men of high professional ideals rather than mere technicians. Through the influence of the College of Liberal Arts, classical as well as contemporary learning has been fostered, and technical and arts students alike have experienced the stimulating effects which come through the study of older civilizations and their influence upon modern life and culture.

Recently, engineering was defined as "the art of organizing and directing men and controlling the forces and materials of nature for the benefit of the human race." This definition recognizes the changing status of the work of the engineer and the constantly increasing need for men who are capable of working with other men as well as with materials and processes. Ultimately the technical curriculum will include the study of human relations as well as the study of things, and it will take cognizance of the fact that to organize men one must be proficient in the art of expression, and to handle men, one must understand them.

Lehigh University has great opportunities for the effective coordination of the work of the various colleges in the training of men for real leadership in industry and business. With these opportunities, however, there are large responsibilities. The problems of a modern university are complex and difficult of solution and its needs are large. A Mark Hopkins at one end of a log no longer constitutes a university capable of coping with the educational needs of the day. Such institutions must now be provided with adequate facilities in buildings, equipment and endowment, and with faculties of highly expert specialists, for they must encourage and promote scholarship by every possible means, if they fully discharge their obligations to society.

I have great hopes for the future of this institution, hopes which, I know, are shared by each of you. With God's help and yours, there is no doubt that Lehigh will continue to exercise a powerful and constantly growing influence on the intellectual, economic and spiritual life of the nation.



Top Row: E. L. Rich, '05; J. D. Alrich, '22; J. W. Kellog, '84; H. G. Reist, '86;
C. L. Moffatt, '04; John Anderson, '10.
Second Row: R. W. Wieseman, '16; W. E. Holcombe, '94; C. P. Turner, '94; E. L. Tinker, '21;
N. R. Munkelwitz, '18; G. H. Gildersleave, '19.
Bottom Row: F. C. Brockman, '15; A. D. Badgley, '96; R. D. Allen, '22; Dave Pfeiffer, '21.

LEHIGH CLUB OF NORTHERN NEW YORK

The Lehigh Club of Northern New York spent a delightful week end (September 23-24, 1922) at West Stony Creek, N. Y., which is about sixty-five miles north of Schenectady, N. Y. The object of this outing was to welcome the new Lehigh men who had recently come to Schenectady to take the General Electric Test Course. The party left Schenectady at 1:00 p.m. and motored to the Brook's Camp, arriving there at 3:30 p.m.

Saturday afternoon was devoted to fishing and exploring the Adirondack Mountains. Badgley, '96, was the prize fisherman of the afternoon and succeeded in landing a five inch bullhead.

Saturday evening the party assembled in the camp annex, which was a neatly built log cabin with a cozy fireplace. Around the fireplace all took hands at bridge and "500."

Sunday morning found every one anxious

to climb Mt. St. John except two of our expert fishermen, Munkelwitz, '18, and Allen, '22, who wanted to redeem the lost reputation of Badgley. Mt. St. John, whose elevation is 2600 feet, made a pleasant climb and offered many interesting geological formations. A feature of this hike was the bridge game by Turner, '94, and Holcombe, '94, who replayed the entire game of the night before all the way up the mountain.

The mountain climbers were rewarded by a good substantial noon-day meal on their return, but the mess of fish promised by Munkelwitz and Allen was conspicuously absent.

Sunday afternoon the party assembled on a cliff overlooking Harrisburg Lake, where a meeting was held and plans for the coming season were laid. At 4:00 p.m. the meeting was adjourned, and soon all were homeward bound.

R. W. WIESEMAN, '16,
Schenectady, 10-12-22.

MARYLAND LEHIGH CLUB

Baltimore, Md., September 28, 1922.

My dear Okeson:

On September 5 we held the first luncheon since May. Had on hand twenty-one, including "Dutch" Henschen, John Muzdakakis and Richard Kutzleb, Jr., all three in college at the present time, as well as Mr. P. L. Reed, '98, Professor at the University of Florida, Gainesville, Fla., who was in Baltimore that day on his way to Florida.

Mr. W. D. Janney, '83, took charge of the proceedings in the absence of Mr. Frank W. Roberts, President, who at the last moment was unable to attend, also Mr. W. F. Mylander, '93, Vice-President.

Before I knew what he was up to, Mr. Janney had railroaded my election, as Secretary and Treasurer for the balance of this year.

Will hold our October luncheon on the third of October at the Hotel Caswell, instead of at the Engineers' Club, as in the past, with the view of getting better and more prompt service.

Will continue holding same at the Caswell on the first Tuesday of every month, until otherwise advised. We will be glad to have any Lehigh man, who is in town on that day, join us. Time, 12:30 to 1:30 p.m.

Very truly yours,

A. J. KUTZLEB, '13.

CLASS GUARANTY PLAN

TO MAKE OUR ALUMNI 100% ACTIVE AND 100% EFFICIENT

On October 20, 1922, the following 41 classes had definitely adopted the plan: 1875, 1883 to 1922 inclusive. These classes have many members for whom we have no addresses. In order to try and find some of these men we print below a list of the men in each class whose addresses are known neither to the Alumni Office nor to the Class Chairmen of the 100% Membership Campaign. If you know the whereabouts of any of these men please advise the Alumni Secretary.

Class of 1921.—Bailey, H. C.; Esterson, M. M.; Fleischer, A.; Mosser, J. K.; Stout, C. M.; Thomas, C. L. R.

Class of 1920.—Arnheimer, L.; Bryan, A. W.; Clark, J. L.; Clarke, R., 2nd; Cooper, F.; DeGarmo, F. R.; Dittes, N. C. S.; Koan, K. T.; Larison, W. K.; Lazier, L. W.; Lee, I. T.; Lott, W. A.; Roberts, P. A.; Rodgers, M. D.; Rowland, R. C.; Straub, T. F.; Teak, P. A.; Turano, C. L.; Wagener, A. H.

Class of 1919.—Aldrich, F. C. Q.; Baumann, L. A.; Bigelow, L. T.; Bothe, H.; Cutler, R. L.; Fegley, C. A.; Jones, G. P.; Lewis, L. R.; Mertz, C. D.; Pearson, C. W.; Robertson, G. R.; Schultz, W. R.; Tomkinson, C. H.; Tseng, Y. L.; Twombly, E. P.

Class of 1918.—Bacon, C. M.; Lagnette, L. A.

Class of 1917.—Botero, B.; Butterworth, G. A.; Halpin, C. T.; Hanway, P. S.; Heffelfinger, R. H.; Lytle, L. D.; Mohr, R. L.; O'Brien, J. G.; See, E. B.

Class of 1916.—Baker, R. I.; Hill, J. B.; Hunt, C. J.; Kinselmann, A. S.; Lancaster, L. H.; Oliver, B.; Thomas, C. H.; Waller, J. M. S.; Wyler, J. A.

Class of 1915.—Bennett, J. S., 3rd; Chatfield, J. F.; Ennis, A. E.; Esrey, W. H.; Fischer, S.; Francis, C. W.; Hager, O. E.; Hussa, L. R.; Jay, H. D.; Kaung, S. Z.; McGurl, G. V.; Price, J. B.; Schmutz, G. L.; Snyder, C. H.; Steele, H. C.; Stuart, H. H.; Tanner, C. W.; Whitney, R. H.; Wong, C.; Wright, L. A.

Class of 1914.—Bianco, F.; Charnock, P. R.; Cooper, A. C.; Howard, W. E.; Lacombe, L. L.; Loo, M. T.; McConnor, W. F.; Merwin, M. H.; Mickel, R. E.; Murphy, J. E.; Rosenbaum, A. N.; Wang, H. C.; Warlick, J. D.

Class of 1913.—Babcock, L. C.; Baker, F. R.; Bates, M. B., Jr.; Bear, S. L.; Bickel, E. O.; Bowman, D.; Brown, F. W., Jr.; Carpenter, L. T.; Chun, K. W.; Clemmitt, W. B.; Cook, T. H.; Cresswell, G. M.; Curtis, J. R.; Dang, J. Y.; Diaz, M.; Drant, R.; Dunn, T. L.; Fuhrman, I. F.; Funk, R. S.; Gonder, J. M.; Gorman, A. B.; Gutman, A. B.; Hill, G. C.; Hirschberg, F. I.; Horcasitas, A. S.; Horlacher, W. E.; Krause, R. S.; Kuech, S. R.; Levan, D. H.; Lockwood, R. W.; Moore, A. E.; Pelly, J. C.; Putnam, J. C.; Riegel, J. K.; Robell, J. C.; Root, S. R.; Simpson, G. S.; Slack, W. S.; Smith, F. W.; Smith, J. L.; Speed, F. B., Jr.; Stewart, A. M.; VanNort, C. W.; Wampole, E. A.; Wright, F. W., Jr.

Class of 1912.—Acker, J. C.; Ailes, C. C.; Berner, C. C.; Besson, L. S.; Brumbaugh, R. T.; Camp, H. A.; Costom, M. E.; Davies, D.; Einstein, W. B.; Esbach, H. H.; Franklin, C. T.; Hadsall, W. F.; Hancock, W. K.; Hess, L. D.; Hughes, J. A., Jr.; Hurst, J. B.; Johnson, W. M.; Kaufman, W. K.; Keefer, J. F.; King, R. D.; Kline, F. C.; Love, J. H.; Miller, J. H.; Parker, R. V.; Pfeil, J. S.; Rapp, H. M.; Saeger, G. A.; Sanchez, P. E.; Smith, W. T.; Stone, W. H.; Strieby, W. J.; Sutherland, M. R.; Thompson, B. M.; Turpin, W. H.; Vonkonecky, C. T.; Waddington, W. H.; Wagner, C. E.; Weber, W. W.; Wenner, R. S.; Witherspoon, P. A.; Yake, E. E.; Zehner, G. O.

Class of 1911.—Bay, J. H.; Butz, G.; Carroll, J. M.; Chapin, C. H.; Fisher, J.; Gladding, S. D.; Good, M.; Hartman, G. F.; Jacoby, R. F.; Kraemer, T. C.; Lopez, P. N.; Pierle, C. A.; Priestley, A.; Reese, L. R. P.; Rose, J. A.; Smith, L. W.; Thornburg, C. C.; Tremlett, J. W.; Walters, C. C.; Wu, N. Q.

Class of 1910.—Carver, G. E.; Crocker, G. H.; Davies, W. B.; Dobson, W. T., Jr.;

Donkel, W. J.; Downs, C. L.; Gonzales, C.; Henry, W. E.; Livesay, H. G.; Mathews, R. B.; Merriman, E. A.; Parker, A. A.; Peters, F. C.; Rickert, R. E.; Sayford, F. M.; Shoemaker, C.; Skidgell, F. M.; Smith, E. C.; Strauch, R. D.; Wills, W. B.; Wintermute, H. A.

Class of 1909.—Adelhelm, F. R.; Barker, J. S.; Boyd, W. W.; Broad, W. T.; Campbell, J. B.; Cannell, H. S., Jr.; Conklin, J. M.; Cowgill, C. S.; Cunningham, S. L.; Dech, H. F.; Digby, C. B.; Drake, J. B.; Durns, A. H.; Earnshaw, W. A.; Eckert, C. M.; Elwood, E. R.; Faison, H. R.; Fluharty, W. G.; Pocht, H. M. S.; Fraser, K. C.; Geno, J. E.; Glover, C. N.; Gordon, P.; Havenstein, P. W.; Himes, W. L.; Johnson, N. L.; Jones, L. R.; Kirk, F. S.; Kuschke, J. L.; Lachman, J. K.; Lobb, H.; Logan, G. R.; Luckie, J. B.; Lyne, G. H.; McMurtrie, A. J.; Mildenerberger, F. J., Jr.; Mueller, F. R.; Nagle, W. O.; Phillippi, W. H.; Richmond, V. L.; Ricksecker, P. E.; Ridgely, J. T.; Robertson, F. F.; Saenz, C.; Sauber, C. B.; Schimpf, H. H.; Schmertz, E. C.; Shoemaker, H. M.; Sill, A. P.; Simmins, H. C.; Smith, W. A.; Sparks, E. E.; Valerio, L. J.; Valerio, R.; Watson, H. L.; Williams, T.

Class of 1908.—Beato, E.; Bishop, P. H.; Fetter, E. C.; Hartsuff, H. K.; Janeway, L. W.; Kraemer, F. J.; Lloyd, H. N.; McCann, W. E.; McDonnell, F. R.; Mackie, W. E.; Mosquera, L. J.; Peters, E. W.; Reel, C. H.; Schumann, F. J.; Stamihlan, L. M.; Torrey, D. H.

Class of 1907.—Dyson, H. P.; Evans, B. G.; Evans, R. C.; Freedman, I. J.; Grace, L. T.; Hoake, R. A.; Hurst, F. C.; Johnson, E., Jr.; Loose, J. G.; Nime, J.; Palmer, P. S.; Prechtel, H. J.; Saenz, D.; Smith, M. L.; Waddill, J. T.

Class of 1906.—Bishop, L. G.; Cassin, W. D.; Cupitt, A. W.; Hallock, G. LeR.; Jacoby, C. A.; Mendoza, J. M.; Roberts, W. H., Jr.; Singer, M. W.; Stocker, H. R.; Torrey, P. H.; Underwood, C. N.

Class of 1905.—Butz, C. E.; Geyer, H. R.; Gilliam, T. B.; Hemphill, J.; Hudson, J. H.; Koch, H. O.; Martin, W.; Miller, H. D.; Moody, R. G.; Reed, J. W.; Regester, H. S., Jr.; Sands, A. L. P.; Saxton, E. F.; Spilsbury, P. G.

Class of 1904.—Cornwell, B. A.; Cory, M. B.; Cram, W. C., Jr.; Cuesta, L.; Fletcher, F.; Frederici, C. J.; Herrick, R. L.; Huth, H. O.; Murphy, H. M. P.; Reed, H. B., Jr.; Slifer, W. S.; Tracy, H. R.; Wagner, J. F.; Whitney, E. S., Jr.; Wunderly, R. F.

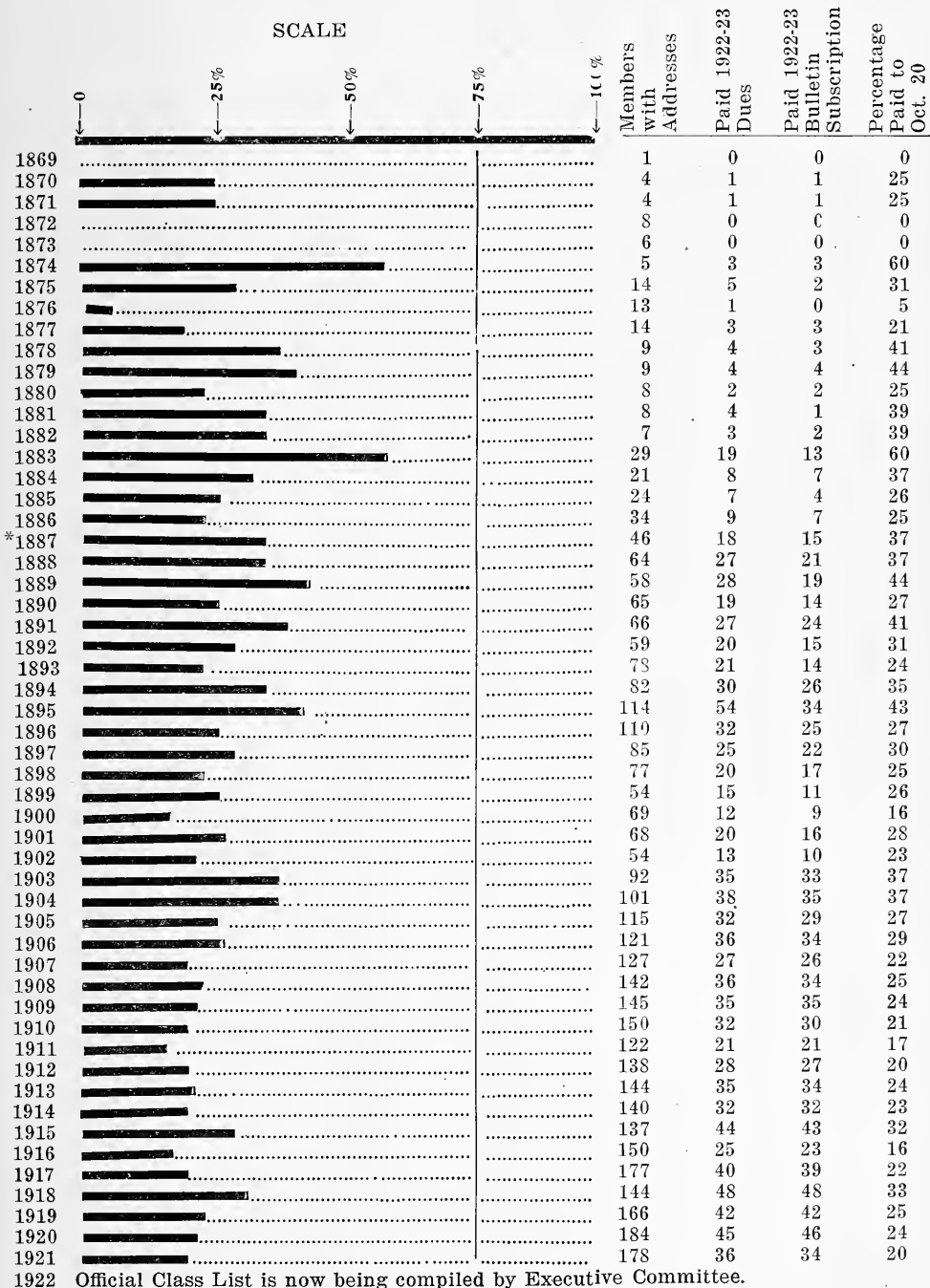
Class of 1903.—Adams, R. L.; Barrett, A. D.; Daniel, L. L.; Earle, E. W.; Garner, A. H. L.; Goodwin, G. H.; Hartman, H. S.; Haynes, H. W.; Hendrickson, C. J.; King, R. C.; Lewis, G. M.; Lilley, J. K.; Lobo, J. P.; Mackie, A. K.; Means, J. S.; Mercer, W. R.; Owen, C. G.; Payne, F. J.; Pearson, E. C.; Prindle, G. B.; Ritter, R. J. G.; Rivandneira, L.; de Schweinitz, E. A.; Smith, W. H.; Talcott, J. L.; Thompson, M. H.; Traeger, J. H.; Van DeMark, J. L.; Weiss, W. L.

Class of 1902.—Bareis, F., Jr.; Blagden, F.; Dumas, C. G.; Erb, E. M.; Fleming, W. L.; Gleason, P. W.; Hawley, I.; Handerman, J. O.; Hill, A. C.; Hill, J. E.; Leon, R.; Leroux, G. B.; Lowery, R. S.; McVey, J.; Mill, C. L.; Peebles, W. H.; Ramos, A.; Slifer, W. P.; Stevens, E. S.; VanWinkle, G. F.

Class of 1901.—deAndrade, J. Q.; Savidge, A. C.

Class of 1900.—Anderson, A. B.; Borhek, R. J.; Chapman, H. B.; Emerson, C. A.; Free-

STANDING OF CLASSES OCTOBER 20, 1922



* A mistake was made in the October issue in giving the number of members of '87 as 31 instead of 46.

man, R. M.; Freudenberger, G. L.; Giering, F.; Greene, H. T.; Hanna, B. S.; Harmony, E. F.; Maeder, C. E.; Magee, H. I.; Magie, W. E.; Meixell, J. L.; Menner, H. M.; Schwerin, M.; Smith, W. S.; Soloranzo, A.; Von Phillip, B.; Warner, R. A.; Yasharian, T. A. K.

Class of 1899.—Gandia, J. G.; Klinck, J. H.; Moffitt, R. H., Jr.; Morgan, J. F.; Shriver, R. S.

Class of 1898.—Ballard, J.; Broughal, D. J.; Corbett, B. C.; Fitzgerald, H. W.; Foresman, J. G.; Galan, J. M. G.; Garcia, Manuel; Harè, W. G.; Harrison, B. H.; Johnson, S. J., Jr.; Kiehl, E. H.; Kunkle, L. H.; Leidy, N. W.; Linton, J. W., Jr.; Loomis, C. A.; Lukens, R. R.; Lundy, F. K.; Martz, R. L.; Miller, I. P.; Solellac, L., Jr.; vandenBergh, L.

Class of 1897.—Castilla, D. J.; Janney, P. H.; King, E. F.; Kreidler, L. D.; Loomis, A. F.; Marck, L. A.; Mercenario, E. A.; Moore, D. L.; O'Donnell, C. C.; Richardson, R. P.; Shimer, C.; Sterner, A. R.; Transue, W. F.; Weideman, J. E.

Class of 1896.—Carpenter, A. B.; Hammond, C. E.; Loomis, B. E.; Mason, J. G.; Worstall, A. M.

Class of 1895.—Alcott, S. O.; Beach, H. W.; Boers, C. F.; Caldwell, W. A., Jr.; Clark, E. B.; Dandy, G. B.; Dezendorf, J. N.; Dorr, J. van N.; Fletcher, F. M.; Galan, A. G.; Garcia, F.; Goss, W. R.; Hay, A. M.; Holeman, E. E.; Holmes, N. M.; Jenks, S. G.; Lewis, G.; Lowe, G. A.; McQueen, W., Jr.; Merritt, W. A.; deOliveira, H. R.; Ovenshine, A. T.; Ridgely, H. C.; Rios, P.; Ros, A. M.; Shero, J. E.; Sizer, H. S.; Tarleton, R. M.; Van Brunt, G. B.; Villareal, A.; Wade, W. O.; Wager, G. P.; White, R. M.; Wood, H. L.; Woodridge, R. D.; Yglesias, C.

Class of 1894.—Cody, E. P.; Cunningham, M. C.; Dunnington, P. M.; Ferriday, R.; Hesse, A. Y.; Howitz, A. A.; Kanemaro, G.; Kernohan, R. B.; Leech, E. K.; McHugh, M.; McPherson, J. D.; Marsh, E.; Ogden, R. L.; Piper, V.; Seyfert, E. E.; Shipley, H. B.; VanMater, E. P.; Yerrick, C. E.

Class of 1893.—Appleby, H. D.; Atticks, H. J.; Banks, H. C.; Bond, E. M.; Brodhead, A. G.; Brubaker, G. S. W.; Byllesby, E. B.; Cake, H. W.; Carnaghan, F. C.; Farrar, F. P.; Gearhart, C. W.; Grant, J.; Horne, A. F.; Jenney, F. K.; Long, W. J.; Lowry, J. D.; Pendleton, W. K.; Pinter, A.; Randolph, M. P.; Rice, H. K.; Richards, F. E.; Smith, F. K.; Snyder, R. A. L.; Wand, A.

Class of 1892.—Gilmore, W. L.; Hubby, R. G.; McDonald, J. E.; Mather, C. D.; Paret, J., Jr.; Schneider, A.; Smith, C. B.; Smith, C. G.; Spear, T. G.; Summers, F. E.; Trenchard, W. E.; Wentworth, W. W.; Wilhelm, E. A.; Winn, W. S.; Woodcock, B. E.

Class of 1891.—Blakeney, F. E.; Buckley, J. B.; Rice, W. C.; Stilson, H. T.

Class of 1890.—Harley, Harry W.

Class of 1889.—Arnold, H. E.; Cortez, L.; Cortez, T. T.; Davis, M.; Duncan, R. C.; Egbert, H. H.; French, E. M.; Gordon, B. I.; Grubb, A. F.; Kerlin, J. M. S.; Landis, G. C.; Martin, J. J.; Martz, J. H.; Miller, D. G.; Morris, W. E.; Packard, S. E.; Reynolds, F. P.; Wright, J. B.

Class of 1888.—Ayer, Ira; Crawford, Jacob R.; Dean, W. F.; Forsman, Chester L.; Johnson, C. R.; King, Charles; Parker, W. W.; Reed, Joseph A., Jr.; Rich, Chas. A.; Rich, John M.; Rives, John C.; Shane, G. B.; Tanner, A. J.; Webb, Wilmer M.; White, Chas. W.; Williams, John A.; Yamaguchi, Shuntaro.

Class of 1887.—Bates, W. E.; Bonnot, A.; Bryan, K.; Buckner, J. C.; Davidson, A. D.; Davis, C. B.; Forster, J. D.; Gallagher, D. J.; Gorman, W. S.; Grandt, J. A.; Hix, E. R.; Kittrel, J. W.; Knight, H.; McGrath, R. H.; Marks, E. M.; Mitchell, J. R.; Mohr, A. M.; Shurts, H. W.; Stott, W. E.; Stout, C. E.; Thomas, J. W.; Triana, E. P.; Wollé, G. H.

Class of 1886.—Alcott, E. A.; Bermudes, F. A.; Burnham, C. R.; Fink, F. W.; Hawley, L. R.; Hayward, G. N.; Heaton, J. A.; Jaggard, A. M.; Junken, C. A.; Lawther, R. T.; Magee, F. P.; Maharg, W. S.; Moon, A. F.; Nagle, R.

A.; Norton, L. H.; Quigney, T. J.; Reynolds, E. E.; Robinson, F., Jr.; Sawyer, L. M.; Simon, J. B., Jr.; Smith, O. S.; Spaulding, R.; Stevens, R. G.

Class of 1885.—Anthony, M.; Baldwin, L. I.; Edgett, W. C.; Edson, W. N.; Fleming, J. H.; Heiser, W. H.; Hyer, W. E.; Kellogg, E. L.; Kellogg, J. M.; Langston, E.; Meade, C. J.; Peet, H. D.; Thatcher, J. M.; Wilson, H. W.; Wolfe, J. K.; Yoder, H. W.

Class of 1884.—Ayres, H. D.; Bursmith, G. N.; Mehaffey, D. R.; Norton, P. T.; Pinckney, W. R.; Spotswood, C. C.; VonTuy, C. B.; Williams, D. C.

Class of 1883.—Cardenas, F. S.; James, J. H.; Pepin, J. R.

Class of 1875.—Bines, S. M.; Bingham, M. D.; Campbell, G. H.; Canadas, A. M.; Chauvenet, L.; Clarke, J. C.; Halbach, J. G.; Parson, F. W.; Peeke, F. S.; Sayre, F. M.

ANOTHER LEHIGH POET

Willard K. Smith, '13, who claims he is the only Mining Engineer in the world engaged in the lace business is also an editor. He is solely responsible for a monthly magazine called "Chat", which is issued in the interests of Voss & Stern, a Fifth Avenue house of "Variety and Style." The front cover is very clever, the design having the effect of lace work. The opening poem of the September number is well worth reproduction, as showing the effect of a mining course under "Skipper" Eckfeldt.

SEPTEMBER

Here's September back once more,
Better times than year before,
Dresses down to ankle length,
Prices showing lots of strength.
People hurrying back to town
Burned by August's sunshine brown,
Pumpkins growing in the field,
Quail a-piping, well concealed.

Leaves a-turning on the trees,
Stockings now above the knees.
Depots full of city folk,
Coming home with purses broke.
Wives returning from the shore—
Hubbies sad their sprees are o'er.
Drummers out with sample trunks,
Coal men piling up their plunks.
Congress trying to adjourn,
Harding showing unconcern.
Beaches dead and mountains bare—
Tang of Autumn in the air.

Buyers wond'ring how in h—
They'll move goods they've got to sell.
Sales of cotton underwear.
Summer straws and willow-ware.
Chorus ladies out of work,
'Round the booking office lurk.

Style for crepe and lace again,
Knicker pants on all the men.
Buyers picking next year's lines
Down where Broadway's vista shines.
People buying winter goods,
Bears a-stirring in the woods.
Business fine in silk and lace,
Cottons keeping up their pace.
Pawn-shops showing overcoats,
Office-holders raising votes.
Bars now selling real good beer—
September's fair enough this year.

COLLEGE AND ALUMNI NEWS

FOOTBALL

The development of this year's team has been slow and at times very disappointing to Head Coach Baldwin and his assistants. But most of us have recognized the very real handicaps under which our coach is working and realizing the latent strength of this year's material are waiting confidently for the results we feel sure the next month will produce.

Anyone who knows football realizes that changing a coaching system twice inside of two years is bound to play havoc for a time with teamwork and even result in the decrease of individual prowess in the older members of the squad. Regular development is checked and men must learn anew under a different system. As Fisher, of Harvard, says in today's (October 23) "New York Times," it is the system rather than the coach that counts and until a system is established and understood by players and assistant coaches there can be no uniformity of development in either individual play or teamwork. Baldwin has been laying the foundations for his system and has not sacrificed steady development for the sake of winning some early games. In this he has been wise, for early season victories are of little importance in comparison with the development of a sound system of football. He must build not only for this year but for the years to come and he will find that we are sensible enough to realize that he can't put on the roof before he lays the foundation and erects the walls of the structure.

The continued hot weather, lasting for the first five weeks of the season, made Baldwin's task especially hard. A new coach has so much to teach and driving a team in such weather as we have had this fall is bound to sap their energy. Yet the season is so short that each day must be made to count if a finished team is to be produced by November. Then a succession of injuries further handicapped the early development of the team. Roth, last year's center, has not been in a single game. Hoffman, the best guard last year, has had a succession of injuries and at present it is doubtful whether he will get back into the game again this year. Lingle, the flashy half-back, is out for the season with a broken collar-bone. Captain Cusick and Merrill, our leading tackles, were on the sidelines for weeks. Read, a regular end last year, and Mellinger, one of our best bets for quarterback, have also spent more time nursing injuries than they have spent on the field. Of course in addition to these more serious cases there have been a number of the usual minor injuries which keep a man out of practice for a few days or a week. These minor injuries are not so serious where a system is already installed and every

man except the freshmen understand it. But with a new coach and a new system it is mighty hard to get results with a squad which changes its personnel almost every day.

Under the circumstances we feel that the team has done as well as could be expected. In the opening game Gettensburg held us to a scoreless tie, but as they subsequently beat the strong Muhlenberg team 28 to 7 it is evident they were a pretty husky bunch to open the season against. Rutgers outplayed us and beat us 13 to 7, but our team was sadly crippled that day and were handicapped by trying out a new system of offense which involved rather difficult passing from the center. This passing was so poorly done that our backs never really had a chance and it showed real power for them to score when obliged to delay each play in order to make sure of the ball. In the Brown game, against one of the most powerful lines in the East the team proved itself strong on defense, weakening only once when a well executed reverse play got away from them and resulted in a seventeen yard run for a touchdown. On the other hand, they forced the play in the first, third and fourth quarters and were pounding away at Brown's goal all during the second half. They scored on Brown by forcing a safety, which was more than powerful Syracuse team could do the week before. The final score was 6 to 2, in Brown's favor, but Lehigh proved their team was at least as good as the much vaunted team from Providence.

So we face the future with confidence. We feel we have an excellent chance to win the next four games against Muhlenberg, Colgate, Bucknell and Lebanon Valley. We realize that Colgate and Bucknell are at least as strong as Brown or Rutgers, but barring further injuries we will have a strong Lehigh team to oppose them.

Now as to Lafayette. Here we have what is today the most powerful team in the East, perhaps in the country. They have won sixteen straight victories. Can we expect to do anything against them? We certainly can! Every pitcher goes to the well once too often. Every team, no matter how good, is finally due for a defeat. All we ask is that they win their games against Boston College, Washington & Jefferson and Rutgers and come against us November 25 sated with victory. We have a team this year almost as heavy as theirs. Individually our men are as sturdy but not so old or experienced. But "youth will be served" and we don't concede a thing to Lafayette. In 1915 they upset a wonderful Lehigh team with a green bunch of youngsters. What has been done can be done again. This year we propose to go to Easton and reverse the upset of 1915.

SOCCER

Lehigh's soccer team, which was nosed out of the championship of the Pennsylvania Soccer League last year by Swarthmore, is hot after the honors this year. So far they have sustained only one defeat and that was in an exhibition game against the champion team from the University of Toronto. Holding this great aggregation to a 3 to 0 score was quite a feat for our youngsters. Brewer, at goal, was the star of that game, making innumerable saves.

The first game of the season was an exhibition contest against the Hoken-dauqua Field Club, which Lehigh won 2 to 1. Then followed the Toronto game. On October 14 the team travelled to Penn State. Up to this year our team has always suffered defeat at the hands (or rather the feet and heads) of Penn State, but this year the result was a 1 to 1 tie. On October 21 the University of Pennsylvania team was taken into camp by a score of 3 to 2. The other league games are with Haverford on November 4, Swarthmore on November 11, and Lafayette on December 16. Between the Swarthmore and Lafayette games Lehigh plays away from home at Princeton, West Point and Annapolis.

PROFESSOR REITER IN

THE LIMELIGHT

A number of papers have carried news items and commented editorially on Prof. H. R. ("Bosey") Reiter's idea of using poetry to stimulate college gridiron warriors. The idea was advanced in one of "Bosey's" lectures in the course on football psychology which he gave at the Harvard summer school. On the caption, "Poetry Doses on Gridiron," the Newark "Star-Eagle" prints the following in its issue of Sept. 11, 1922:

"Having had pretty much of everything else tried on them to make them win football games, football players are now receiving doses of poetry with that end in view.

"The treatment is recommended by Professor Howard R. Reiter, athletic director at Lehigh University and instructor in football psychology at the Harvard Summer School of Physical Education.

"Verse should be administered freely both before and after games, and between halves as well, the professor asserted in his closing lecture to his class.

"I've seen a football team that had been outplayed, outfought and reduced to a state of panic at the end of the first half, pulled together during intermission," Professor Reiter says, 'by the leadership of a strong personality and by the focusing of the men's energies upon teamwork. I've seen a beaten team literally sweep their opponents before them and pull victory out of defeat.

"Choice poems, on such occasions, not only are uplifting, but they put the fighting spirit into the men.'"

LEHIGH MEN WHO WRITE

W. L. Raeder, B.A., '76, is the author of an article appearing in the *Scranton Times* on August 25, 1922, explaining in a scientific way the reason why when our lakes and ponds "work" (a condition familiar to all fishermen), it is impossible to get the finny tribe to bite. He attributes it to the excessive growth of aquatic plants known as algae, which results in the accumulation of large quantities of disintegrating organic matter. The consequent deficiency of oxygen and the accumulation of noxious gases render the fish inactive and sluggish and they "will not take the hook." The article goes into careful detail and is most convincing.

The *New York Central Lines Magazine* of May, 1922, carried an article, entitled, "Commodore, the Town the New York Central Built," which was written by H. B. Douglas, B.M., '84, E.M., '85, Asst. to the President, Clearfield Bituminous Coal Corporation.

The October *Atlantic Monthly* has an article by M. A. DeWolfe Howe, B.A., '86, Litt.D. (Hon.), '16, called, "Elmwood and Charles Street," being passages from the diaries of Mrs. James T. Fields, wife of the second editor of the *Atlantic*. This article is a chapter from Howe's new book, "Memories of a Hostess," to be published very shortly. Howe is the literary executor of Mrs. Fields and this book will enable us to see and hear the many eminent friends of Mrs. Fields—Hawthorne, Dickens, Mark Twain, Joseph Jefferson, and scores of others—in a most intimate way, for Mrs. Fields' diaries, from which the material is drawn, doubtless teem with reminiscences of the many notables she and her husband numbered among their friends and acquaintances.

William Bowie, C.E., '95, Sc.D. (Hon.), '22, the foremost authority on the theory of Isostasy, has an article on "The Earth's Crust and Isostasy" in the October *Geographical Review*. In the June number of the *Bulletin of the Geological Society of America* there was an article by him entitled, "Theory of Isostasy—A Geological Problem."

The *Mathematical Review*, Volume XXIX, No. 3, carries a solution of a problem proposed by G. Y. Sosnow, which solution is by J. B. Reynolds, B.A., '07, M.A., '10.

The *Electrical Review* of October 1, 1921, has an article by M. D. Douglas, M.E., '13, and H. B. Bush, on "Construction and Repair Work on High-Voltage Lines. The *Electrical World* of September 9, 1921, also has an article by Douglas on the accident at the Greenwich Sub-Station of the New England Power Co.

EXERCISE OR RECORDS

(Reprint of Editorial appearing in "Boston Evening Transcript", May 20, 1922.)

"Athletics in colleges are suffering from our lack of sporting ideals plus an excess of sentimentality, with the extra aggravation of a misunderstanding on the part of many as to the benefits and value of intercollegiate competition." These are the words of Mr. Walter R. Okeson, of Lehigh University, the well-known coach and football official, and as a good text never hurts anyone, we note this utterance of a gentleman who knows what he is talking about.

When Mr. Okeson goes on and says flatly that "the truth is there is no such thing as professional sport," he says what is boldly accurate, though it may not please a great many people, not necessarily those who are professional athletes, but those who look towards those professionals to furnish them with a spectacle. The speaker puts emphasis on the difference between sport for sport's sake and athletics for gain and as he is an American, can say what if said by an Englishman or Frenchman would arouse an angry disclaimer on the part of those who do their athletics by deputy. He does not criticize the public that goes to ball games or great golf tournaments, but limits his opinions specifically to the undergraduate bodies of American colleges and universities; in other words, to what are now a very large proportion of the population.

There is no pleasanter companion than the man who plays games for their own sake, and there is no bigger bore than the athlete who keeps a greedy eye on records. The last purpose and object of athletic exercise is that one side beat the other, but for the moment that seems to be the somewhat childish view that obtains in college athletics in America. The side that wins is in heaven. The side that loses—in the antithetical territory. The consequence has been and still is not only in college but unhappily in schools, that all the life and beauty are too often taken out of athletics and the competitors regarded as mere machines of flesh and blood. To what profit?

A consequence of making so much of organized athletics, "machine made," as they have been called, has been one that the devotees of the great god Get There did not foresee, though it was an inherent danger in the whole system. A public that does not care a rap about collegiate life and education has come to regard the contests between the larger institutions as differing from Mr. Ziegfeld's superior productions only in point of shelter from the weather and the price of admission. The undergraduates in the arena are simply regarded as so many skilled performers whose business it is to amuse and thrill. When the show is not to this public's liking, it betrays the exact

degree of its love for sport and deems itself ill treated.

We have endless pronouncements and essays on the relation of colleges to the country. Let us trust that those who write them are more edified thereby than some who read them, for nearly all college and university governing bodies seem to take for granted that there is a mysterious virtue in the competitions of which we speak. No doubt there is some virtue, but it is in danger of being nullified by the spirit engendered in the undergraduate and more or less imitated in schools. Hope is a component part of the unwritten Constitution of the United States and they are not going to destruction because the use of sports has not yet been grasped, but a good deal of time and a great deal of money might be saved were American colleges a trifle surer of what sport really means and what so-called victory brings in its train.

Waving a flag and shouting loudly are harmless exercises in themselves, but many of the people that so indulge at stated intervals would shudder at the prospect of walking ten miles. Yet these same legless shouters can tell you to a second how good a man Jones may be and why Snooks ought to eat less meat, and are very short indeed with these unimaginative youths when they do not deliver the goods in the shape of a victory which is the result of exercise on the part of some few dozens at most out of a crowd of thousands.

FROM THE PUBLIC PRESS

The "Manilla Daily Bulletin," of August 29, has an article on a speech made by Franklin Baker, Jr., '95, to the American Chamber of Commerce of Manilla, P. I. Baker spent the summer in the Philippines, returning in October.

The "New York Times" carried an article in September on a speech made by Floyd Parsons, '02, before the Advertising Club of New York, in which he urged that the mining industry be represented in the President's Cabinet and that a Government Bureau of Coal Economics be established.

The "Daily News," of McKeesport, Pa., of September 13, carried a picture of William A. Cornelius, '89, General Mgr., National Tube Works, and a sketch of his life, in connection with an article on the "Largest Pipe Mills in the World."

"Chemical and Metallurgical Engineering," for September 27, under the title of "Chemistry in Medicine," tells of an address made by Archibald E. Olpp, '03, Chemist, Physician and Member of Congress, before the Chemical Exposition.

All the Philadelphia papers had articles early in October on a testimonial golf match played for the benefit of Percy Sanderson, '14, sports writer and golf editor of the "Evening Public Ledger," who was badly injured in an automobile accident this summer.

MARRIAGES**Class of 1907**

On October 3, 1922, Martin Henry Schmid to Miss Eleanor Bowdle Garde Brant, of Canton, Ohio. At home after December 15, at 1303 Market Avenue, North Canton, Ohio.

Class of 1909

On September 30, 1922, Garrett DeForrest Spiers to Miss Prudence Robinson, of Bangor, Maine.

Class of 1910

On October 28, 1922, Caleb Samuel Kenney to Miss Marion Witherill, of Syracuse, N. Y.

Class of 1913

On October 11, 1922, Robert Clement Watson to Miss Sara Alice Latimer, of Bolton, South Carolina. At home after October 1, at 1531 Park Road, Washington, D. C.

Class of 1915

On September 28, 1922, Harold Drinker Cranmer to Miss Sarita Dorothy Campbell, of Buenos Aires, Argentina. At home after November 18, at Lehigh University, Bethlehem, Pa.

Class of 1918

On October 14, 1922, Leon A. Fritchman to Miss Mildred Reeve, of Medford, N. J.

Class of 1920

On September 30, 1922, Homer A. Bachert to Miss Mary L. Thompson, of Bethlehem, Pa.

On October 11, 1922, William Hoppé Hunton to Miss Marguerite Elizabeth Speck, of Bethlehem, Pa. At home after November 15, at Indianapolis, Indiana.

Class of 1921

On October 7, 1922, John Lorah Bertolett to Miss Katherine Rose Green, of Mt. Penn, Pa.

Class of 1922

On September 19, 1922, William Hurr Waltz to Miss Beatrice Landis Semmel, of Bethlehem, Pa. Waltz originally entered Lehigh in the Class of 1920, but left college to enter the army. He took part in the battles of Chateau Thierry and the Argonne. After being badly wounded, he was invalided home and re-entered Lehigh in the Class of 1922.

BIRTHS**Class of 1911**

A daughter, Nancy Bogert Black, to Mr. and Mrs. Alexander G. Black, of Peoria, Ill. This is the second child, the first being a boy, who is now three years old.

DEATHS**Class of 1882**

At the 40th Reunion of the Class of '82 last June, every living graduate was present and the class won the attendance cup. Though far from a well man, Louis O. Emmerich journeyed to Bethlehem to spend two days with his old class-mates. This was his last reunion, for on September 23, 1922, he passed the Great Divide.

He was stricken with apoplexy just as he was finishing dinner on September 22 and died at 2:45 o'clock the following morning in the 63rd year of his life.

Emmerich was born in New York on December 27, 1859, and educated in the public schools, then entering Lehigh in the fall of 1878. He received the degree of Mining Engineer in 1882 and went to Leadville, Colo., where he worked as an assayer for two years. He then located in Hazleton and became associated with E. H. Lawall, one of his classmates, who was for many years General Superintendent of the Lehigh & Wilkes-Barre Coal Co. Later Emmerich became Superintendent of the Stockton & Humboldt Collieries. He read law and was admitted to the bar in 1899. For many

years and up to the time of his death he was land agent for the Charlemange Tower Estate, Lehigh & Wilkes-Barre Coal Co., and the C. M. Dodson Coal Co. Surviving him are his wife, Minnie A. P. Emmerich, and one son, Franz J. Emmerich, of New York City.

Emmerich was a most active and loyal Lehigh man. He served continuously as Alumnus Trustee from 1894 to 1912. During the war he was Chairman of the Exemption Board of the Hazleton District and won high distinction by his able administration of this office. Lehigh has lost one of her finest alumni.

PERSONALS**Class of 1874**

Caspar W. Haines was on deck for the inauguration and "sassed" the Alumni Secretary for not arranging to have the Alumni all march in the Academic Procession. Of course he was joking, but it would have been a pretty good idea at that. All right, Caspar, we'll do it the next time.

Class of 1875

Prof. E. H. Williams was at the inauguration with Mrs. Williams and told me he was going to take hold of his class and see that they reached the 100% membership mark this year.

Class of 1876

William Griffith attended the inauguration and gave us a good suggestion for the publicity campaign we hope to put on for Lehigh.

If W. L. Raeder was here, I did not see him. He has been mighty busy lately. Recently he was elected President of the Scranton Association of Fire Underwriters.

Class of 1877

Prof. H. S. Jacoby and his wife attended all the functions on Founder's Day and he looks fine. Since his retirement as Professor of Civil Engineering at Cornell he and Mrs. Jacoby have been travelling and the rest and change have made him look like a seven year old.

Class of 1879

A lot of Tucker's classmates were here to see him get his Doctor's degree. I noticed Hammond, Sargent and Seaman and perhaps there were others. Well, when a man travels all the way from California, he ought to have a class reunion.

Class of 1887

Mrs. Emma L. Ainey, wife of William D. B. Ainey, Chairman of the Pennsylvania Public Service Commission, died at her home in Harrisburg, Pa., on September 23.

Class of 1889

Arthur H. Frazier has left Vienna and is now with the American Embassy, Paris, France. His residence is Giverny-par-Vernon, Eure, France.

Class of 1890

Adolf Cardenas has been appointed Minister of Finance of Nicaragua.

Asa E. Phillips has opened an office at 26 Jackson Place, Lafayette Square, Washington, D. C., as Consulting Engineer on Municipal Work, such as parks, streets, sewerage and sewage disposal.

Class of 1894

Colonel Godwin Ordway, Coast Artillery Corps, U. S. A., has been transferred from Fort Leavenworth, Kas., to Camp Eustis, Va.

Edwin J. Prindle has been appointed a member of the American Bar Association Committee on Patent Law Revision.

Class of 1897

"Pop" Pennington has been appointed a committee of one to develop an idea of his which is for each class to give some kind of memento to the first man of the class to have a son graduate from Lehigh. Good stunt, "Pop."

Where is Oliver F. Bitting? Mail addressed to E. P. Wilbur Trust Bldg., Bethlehem, Pa., is returned.

Class of 1899

R. R. ("Rain") Horner has opened an office as Consulting Mining Engr., in the Horner Bldg., Clarksburg, W. Va.

Charles S. Paget, head of the Paget Eng. Co., has been awarded a contract by the Chinese Government to build a railroad in the Canton Province.

Class of 1901

Francis Donaldson has changed his office to 256 Broadway, New York City.

Class of 1903

Listen to this one from Dave Smith to Harry Eisenhart in answer to a letter about '03's twentieth reunion:

Dear Izzy:

Glad to hear from you even if it was a "dunner."

1. Am a Life Member, having given one of those Liberty Bonds.

2. I enclose check for the BULLETIN and don't ask for the \$1.70 change.

3. Fully expect to let haying go heck next June and go down to Bethlehem. Suggest that a list of the men who expect to go back be started in the 1903 notes in the BULLETIN and the new names added from month to month as different ones signify their intentions of being among those present.

EDITOR'S NOTE.—For that No. 2, Dave, you get a punch in the slats when you arrive in Bethlehem in June. As for No. 3, it's a good idea and here is where we start:

ACCEPTANCES FOR '03'S TWENTIETH
David R. Smith.

John R. Reigart is with the Comstock Mines Co., Gold Hill, Nevada.

Class of 1904

E. C. Weinsheimer has moved from Los Angeles to 1216 Orange Drive, Hollywood, Cal. His office is at 1111 Pacific Finances Bldg., Los Angeles. He is with the California Highway Commission.

Class of 1905

Here's a peach from our esteemed contractor, author and scenario writer, "Shine" Kirk. He don't care what he says or how he says it, does he, Dan? By the way, the subject of his effusion is the 100% Membership Drive.

1437 Ocean Ave.,
Santa Monica, Cal.,
Sept. 13, 1922.

Dear Okey:

Got a temporary hang out at last. Now shoot me the works. I'm with you, no matter how dumb you may be; for you're working for Lehigh for one thing; and I'm as dumb as you ever thought of being, for another. So we ought to be able to get along fine together.

Guess I'll be getting my dope from old Fatty Funk, whom Dan has made the goat in this work. Dan sure is the world's champion work dodger. I wonder how the hell the Dravos ever got their money's worth out of him. He's always hollering his head off about how much work he is doing; but damned if I ever see any of it in our Lehigh affairs. He, I suppose, is the young Captain of Industry who accomplishes so much because he finds the lieutenants to do the work for him. But that guff don't wash in this Lehigh work. He's got to do it himself, not get it done, to get any credit from us '05 hard eggs. You tell him what I say next time you see him. I'd be glad to do it myself, but I can't express myself properly through the mails, and you are likely to see him long before I do; and I have every respect in the world for your spoken vocabulary.

I've written to Funky, telling him to count on my feeble help as far as he likes. But if I can do anything for you, personally, let me know it. I've

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C. F. LINCOLN, '11, SECY.

sent in to Hbg. for my Lehigh file box, so as to be loaded for bear.

Don't change my address in the Register. They tell me that if you stay out here a winter, you're here for good. Maybe. But so far I don't see it. All they do out here is trade climate for eastern money, and grow prunes, and holler their heads off about what they got. Back east they take the old world by the scruff of the neck, and shake a living out of her. God gives you climate; but it takes guts and sweat and blood to make steel rails; and you don't do it on sunshine, prunes and English walnuts either. That takes hog and souer-kraut, which blessings the sovereign State of Pennsylvania possesses in abundance.

Yours in the work,

SHINE.

May I have the latest 1905 membership list as per *your* record?

Class of 1906

J. R. Chew is Supt. of Fire Prevention, Central of Georgia Rwy., Savannah, Ga.

E. T. Gott has been made Vice-Pres., Dravo Contracting Co., Pittsburgh, Pa.

Class of 1907

The *Philadelphia Record* of September 14, announced that Gilbert G. Jacobosky had been appointed Adjutant of the American Legion for the State of Pennsylvania. Jacobosky was a Major in the 55th Engineers during the war and saw considerable overseas service. He is a Consulting Engineer, with offices in the Miners Bank Bldg., Wilkes-Barre, Pa.

Where is A. W. Lawson? The Nichols Copper Co., of Laurel Hill, N. Y., write he is no longer with them.

Class of 1908

Carl A. Baer announces that owing to the retirement of M. T. Cooke, the business heretofore conducted under the name of Baer, Cooke & Co., Engineers, will be conducted by him under the name of Carl A. Baer, Engineer, at 10 S. 18th St., Philadelphia, Pa.

Thomson King, former Secretary of the Maryland Lehigh Club, has left Baltimore and is now with the Peerless Heater Co., 5602 Baum Blvd., Pittsburgh, Pa.

Class of 1909

Clyde U. Shank has been transferred by the Bell Telephone Co. from Erie, Pa., to their Philadelphia office, where he is Dist. Supt. of Plant. He is living at 144 S. Easton Road, Glenside, Pa.

Class of 1912

Charles H. Bender is now with the Bethlehem Fabricators, Inc., Bethlehem, Pa.

Henry J. Horn has left Harrisburg and is with the Baltimore Water Dept. and living at Glen and Park Heights Aves., Baltimore, Md.

Class of 1913

Alexander Kalajan is Asst. Engr., Cross Bay Viaduct, New York City, being on the Engineering Staff of the city. He is living at 8856 75th St., Woodhaven, Long Island, N. Y.

Class of 1914

H. E. Degler has left the McClintic-Marshall Co. and is now Instructor in Mechanical Engineering, University of Illinois, Urbana, Ill.

Rev. C. R. Wagner has returned from the Philippines and is now connected with St. Luke's Parish, Scranton, Pa.

Class of 1915

S. T. Mitman has left the Crucible Steel Co. and is employed with the New York Sewage Disposal Co.

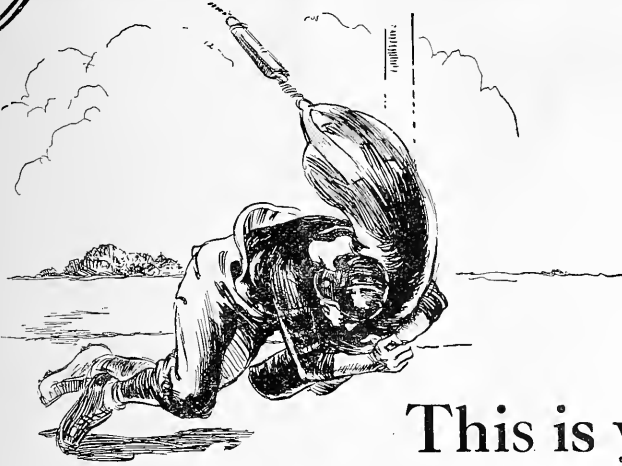
W. H. Wills, Jr., has moved from Wilksburg, Pa., to 109 Meadow Ave., Charleroi, Pa.

Class of 1916

Harold E. White has just moved to 435 Tacoma Ave., Buffalo, N. Y.

Class of 1917

I understand that 1917 has plans under way for



This is you— at college

SEEKING a symbolic figure to represent Knowledge, let us turn away from the muses of antiquity and the be-capped and be-gowned youth of our own day.

How about the Football Player Tackling a Dummy? Isn't he typical of everything you do in these four years?

You are the Football Player. The dummy is every knotty problem you tackle, every effort to earn your way through, every examination, every campus activity.

Tackle the dummy hard, and you'll be ready for even bigger tests in the game of business or professional life.

Do not say about this symbol, "How clever", and let it go at that. It is worth nothing unless it reminds you to get the spirit of the Tackler into your work.

By his earnestness he seems to feel the thrill of combat. With set jaws and muscles tense he plunges at the dummy. For him it is alive, and the practice is a means to win the game.

If you intend to help score touchdowns after college, here is a man to measure up to.

Western Electric Company

This advertisement is one of a series in student publications. It may remind alumni of their opportunity to help the undergraduate, by suggestion and advice, to get more out of his four years.

*Published in
the interest of Elec-
trical Development by
an Institution that will
be helped by what-
ever helps the
Industry.*

reorganizing the class along the lines recommended for class organization by the Alumni Council last June. They are the first class to take this matter up formally.

John B. Schwoyer is Asst. Examiner, Patent Office, Washington, D. C.

Class of 1918

Gosh! but that was a peach of a letter "Buck" sent out to the class as the opening gun in the membership drive. If that letter don't get you, '18, you are sure hard-boiled.

"Tim" Hukill was in the office during September. It is fine to have "Tim" back in the States again.

Class of 1919

Frank J. G. Duck writes that he is now up in New Haven assisting in the new Stirling Chemical Laboratory and working for his Ph.D. from Yale. He says Jimmie Sourber is there as an instructor of French and that Sourber "took unto himself a wife" during the summer.

B. P. Lauder is with the Turner & Seymour Mfg. Co., 189 New Litchfield St., Torrington, Conn.

Class of 1920

W. J. Brisbin is Testing Engineer, Western Electric Co., Philadelphia, Pa.

C. R. Florey, who is a Medical Student at Univ. of Mich., is living at 515 E. Jefferson St., Ann Arbor, Mich.

E. D. Heimbach is Junior Engr., P. P. & L. Co., Lansford, Pa.

Lawrence F. Reed is Junior Blower, Blast Furnace, Bethlehem Steel Co., Bethlehem, Pa.

B. A. Pawlik has left Lyndhurst, N. J., and is now living at 1916 Grandview Ave., Portsmouth, Ohio.

W. K. Wiegner is Asst. Const. Engr., H. N. Crowder, Jr., Co., 446 Union St., Allentown, Pa. This company has the contract for the electrical work on the Alumni Memorial Building.

Class of 1921

William J. Arner, who has been in the Belgian Congo, returned to his home in Allentown in September after a year's absence.

J. L. Bertolett is a tobacco manufacturer at 619 Spruce St., Reading, Pa. "Johnny," as noted elsewhere, was married on October 7 and he and his bride will live at 1946 Fairview Avenue, Reading, Pa.

Willis J. Parker is attending the General Theological Seminary, 175 Ninth Ave., New York City.

E. L. Tinker, who is working for the General Electric Co., Schenectady, N. Y., writes he has lately been transferred from the Test to the Marine Engineering Dept.

Class of 1922

John D. Alrich is Student Engineer, General Electric Co., Schenectady, N. Y., and lives at 50 Thompson St.

Warren Brewer is still in college and playing a great game as goal-keeper on the soccer team.

Donald M. Bush is in the Drop Forge Dept., Bethlehem Steel Co., Bethlehem, Pa. Residence, 1135 Russell Ave.

Lee H. Coleman is Mech. Engr., The Barrett Co., 36th St. and Grays Ferry Ave., Philadelphia, Pa. Residence, Y. M. C. A., 52nd and Sansborn Sts.

Everett M. Enslin is Junior Engr., Dravo Contracting Co., Neville Island, Pa., and living at 1511 Ridge Ave., Coraopolis, Pa.

J. Frank Frain is with the National Tube Co., Elmwood City, Pa.

C. F. Goldcamp is in the Production Dept., Haynes Stellite Co., Kokomo, Ind., and living at the Y. M. C. A.

David Green is going to take a graduate course

in law. He is living at present at 514 Belmont Ave., Newark, N. J.

John W. Horine is Special Apprentice, Penna. R. R. Co., Altoona Machine Shops, Altoona, Pa., and living at the Hotel Brunswick.

M. K. Jacobs has gone with the Lehigh & Wilkes-Barre Coal Co., Wilkes-Barre, Pa.

Charles H. Jagels is engaged to Miss Helen Bergen LAVAKE. I left off the last name in publishing this item in the October BULLETIN. I apologize to the lady.

Alexander Korbel is in the Combustion Dept., Bethlehem Steel Co., Bethlehem, Pa. Residence, 849 E. 4th St.

Edward N. McGovern, Jr., is in the Production Dept., Haynes Stellite Co., Kokomo, Ind. Residence, Y. M. C. A.

Victor S. Miszkil is Cadet Engineer, Phoenix Utility Co., Wilkes-Barre, Pa. Residence, 22 Carey St., Ashley, Pa.

J. W. Moorehouse is Electrical Supervisor, P. & R. Rwy. Co., Reading, Pa. Residence, 527 Greenwich St.

B. E. Schaefer is taking the Students' Training Course, Hudson Coal Co., Scranton, Pa. Residence, 230 S. 13th St., Allentown, Pa.

C. H. Schlesman is a student at Johns Hopkins University. Residence, 1120 Linden Ave., Baltimore, Md.

C. L. Schneider is on construction work at Ronceverte, W. Va., with the J. G. White Eng. Corp. Residence, 430 Pine St., Elizabeth, N. J.

William H. Tavenner is taking the Student Course, Hudson Coal Co., Scranton, Pa. Residence, Engineers' Club.

H. L. Weber is with the Northampton Printing Co., Bethlehem, Pa., in charge of teaching English in the employees' training school. Residence, 637 Center St.

Leslie C. Whitney is Metallurgical Chemist, American Manganese Bronze Co., Holmesburg Jct., Philadelphia, Pa. Residence, 1629 Harrison St., Frankford.

"Mike" Wingate is Sanitary Engineer, International Health Board, co-operating with the Louisiana State Board of Health by conducting anti-malaria control work. His office is 203 New Court House, New Orleans, La.

Charles R. Wolfe is Sugar Chemist, The American Sugar Refineries, and is living in Palm City, Cuba.

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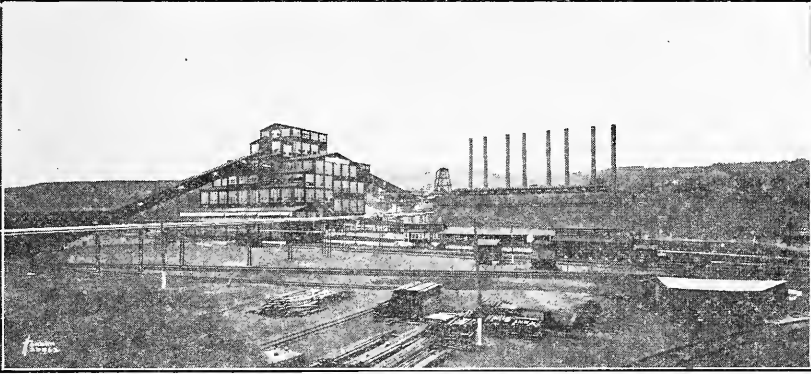
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MECHANICAL ENGINEER

A. J. WIEGAND, '15
SUPERINTENDENT OF MACHINE MINING
J. W. BOYD, '90
ASSISTANT MINING ENGINEER
K. A. LAMBERT, '16
CHIEF COLLIERY ENGINEER

M. LAWRENCE, '19
RESEARCH CHEMIST

H. D. BLEILER, '11
H. G. BOYD, '18
P. A. LAMBERT, JR., '12

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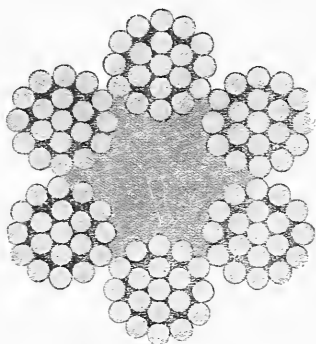
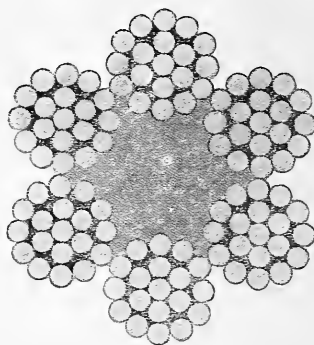
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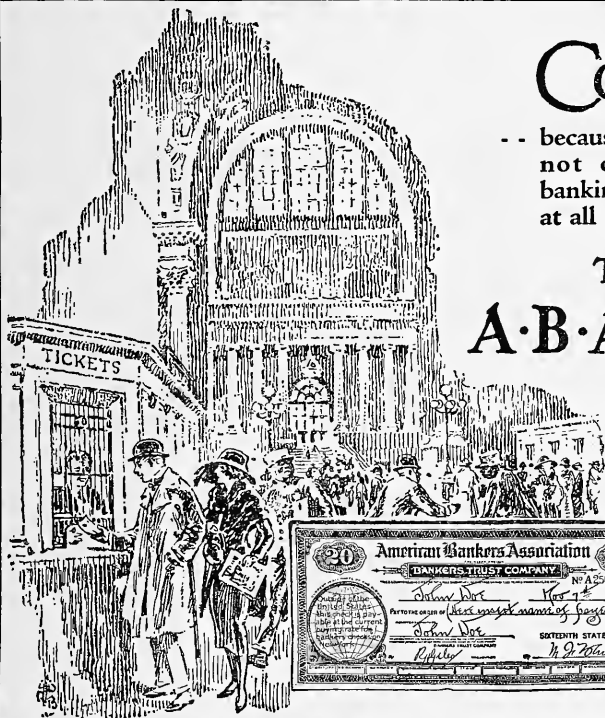
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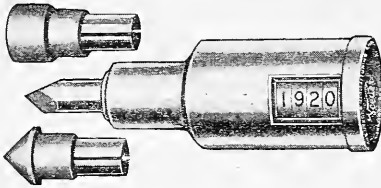


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As thousands of our industrial plants are operating today with poor lighting and in some cases with extremely bad facilities, it would seem that the importance of the subject of lighting has not been given the serious consideration by those responsible for such conditions.

Poor lighting is one of the most serious handicaps under which a manufacturing establishment can operate. First of all, poor lighting is the cause of a large number of accidents in industrial plants; and is it singular that accident reports do not yet properly classify the hazards of poor lighting, which in many cases is the primary cause of an accident attributed to what is really a secondary cause. Safety engineers and other officials who make accident reports should always consider the conditions of the lighting when working up report of accident causes, for it plays an important part in a great many casualties and is apt to be overlooked. All accidents due to poor lighting are accidents of neglect, and are preventable. The poor lighting accident hazard is clearly chargeable to management and not men. It is a difficult matter to make such progress with Safety First in a plant which has neglected to provide one of the fundamental requirements of accident prevention—good lighting.

Probably no one single factor connected with the equipment of a plant so directly affects the efficiency and inefficiency as the quality and quantity of the lighting. The curtailment of production of all working under the disadvantage of poor lighting represents a big loss each day; the poorer the lighting the less able is the working force to function efficiently. Quality and quantity both suffer, representing a preventable loss wholly removable by improving the lighting.

Under poor lighting conditions, we cannot expect and rarely do we find an orderly, clean factory. Darkened places encourage careless habits and workers are often led to deposit discarded articles or materials which should be deposited elsewhere. The eyesight of those who attempt to use their eyes continually in insufficient light, below nature's demands, is often affected. Too much light, such as is furnished by bright, unprotected lights, is as harmful as too little illumination; both are fundamentally wrong. Nature's own illuminant, daylight, is unequalled for our requirements of lighting.

The eye is best suited to daylight in the proper quantity. Sun glare should be avoided, and in the darkened hours proper artificial illumination provided. Daylight should be utilized to the fullest extent. It is supplied free in abundant quantity for our use. Modern invention has supplied a means whereby the interior of buildings can be lighted by daylight, and all the advantages secured which is furnished by good lighting at the smallest cost.

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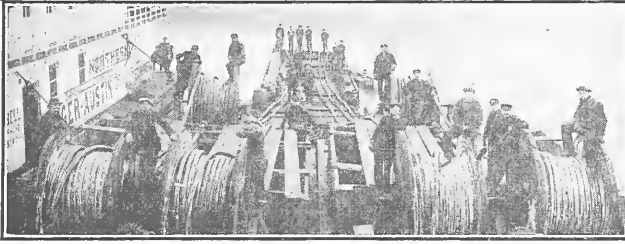
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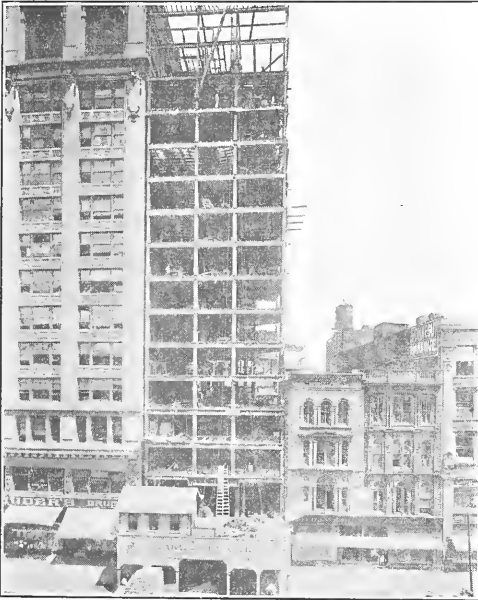
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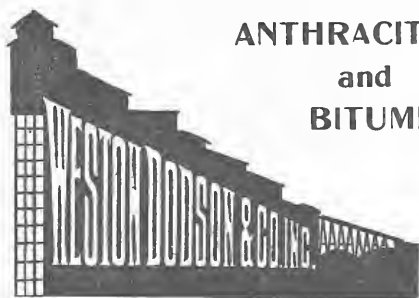
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